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ORIGINAL LECTURES.

SOME RESPIRATORY NEUROSES.

A Clinical Lecture Delivered at the Jefferson Medical College Hospital, Philadelphia, Session 1887–1888.

BY PROFESSOR ROBERTS BARTHOLOW, M.D., LL.D.

GENTLEMEN: We have for consideration to-day a most interesting example of a respiratory neurosis. Really a typical example of a comparatively rare affection, it appeals to us, not because it is uncommon, but for the larger reason that it requires a mode of treatment different from that we would otherwise find more effective. The patient is a young man, not yet thirty years old, of a well-marked neurotic constitution. His general health seems good, and the one disability for which he seeks our aid, is an apparent, or *pseudo-angina pectoris*. He has not had rheumatism, syphilis, or diphtheria, and his heart, in the intervals of the seizures, presents no evidence of disease.

The paroxysms, which began four or five years ago, then, as now, consisted in sudden pain in or about the præcordial region, and shooting thence through the chest in all directions, but especially in the left neck and shoulder; sometimes downward into the left arm. Respiration becomes gasping and shallow, cyanosis appears quickly, the countenance assumes an agonized expression, the eyes protrude somewhat, the skin grows cold, and is covered with a clammy sweat; an inhibition of the heart's movements first occurs, but presently the tension of the vessels falls, the action becomes rapid and feeble, and irregular in rhythm; a deadly faintness comes on, and lately consciousness is lost for an instant of time. Although, when the paroxysms began, the symptoms were, in a high degree, suggestive, their true significance could not be appreciated. At first simple in form and localized to the præcordial region and chest, as the case went on they increased in complexity and in meaning. New elements entered into the problem. Some twitchings of the facial muscles were observed, and, in course of time, it was seen that the faintness extended into complete unconsciousness. The question of loss of consciousness, arisen of late, has deep import. Is the unconsciousness a mere fainting, because of cerebral anæmia due to inhibition of the heart, or mere weakness of the organ? In the absence of certain symptoms which now appear outside of the chest, it would seem to be the latter. Of late, however, muscular twitchings have occurred, and the seizures are preceded by certain uneasy sensations, which, as the patient has learned to know, announce a paroxysm, but the attack itself comes on with a sudden rush and tumult.

The paroxysms, which have been occurring during the past year more frequently, have also been widening in the complex of the symptoms, of which the nerve-elements have just been mentioned, but here note, also, that pronounced disorders of digestion have appeared. Acidity, heaviness, gas eructations, constipation, etc., are complained of. Just before a paroxysm, a sensation of weight and præcordial oppression, with anxiety and foreboding, copious gas eructations, and nausea, take place, and then very quickly the angina comes.

Now that we have come to look over the case, to analyze its symptoms, and construct our theory of its nature, we see that we have the usual morbid complexus of a pseudo-angina pectoris, but other phenomena obtrude themselves and demand recognition. We observe warning symptoms coming from the organs connected through the solar plexus. Shall we call it an aura? When unconsciousness occurs some twitchings of facial muscles are observed. Here then are phenomena which ally the case to epilepsy, and, indeed, more and more has it assumed the characteristics of epilepsy with the progress of time. Trousseau, in one of his admirable clinical lectures, has described such cases under the term, "masked epilepsy." I do not know of any author who has so well characterized these cases, which, beginning with an angina pectoris terminate in a well-developed epilepsy. When I read this lecture some years ago, my attention was drawn to the subject, but I have seen few examples of the malady. One of the most nearly typical examples that has fallen under my observation was that of a physician who had attacks of what was supposed to be *angina pectoris*, and they were not understood until the paroxysms became epileptic in the most pronounced manner.

It is important in respect to treatment to recognize the true nature of these attacks. The best results are had from a combination of remedies addressed to both the true seat of the malady, and to the organs suffering the most severe functional disturbances.

As the bromide of sodium is far less hurtful than the corresponding potash salt, I will direct thirty grains three times a day. As during the paroxysms it is evident that the tension of the vascular system is abnormally high, I will give the one per cent. solution of nitro-glycerine, increasing the dose from one minim until its characteristic action is manifest, at which point it should be kept for the present.

As it is very obvious that errors of diet often precipitate the seizures, and always add to their violence, a careful regulation of the food becomes essential. Indeed of all the measures we have to propose, this is the most important. The allowance of meat should be restricted to one meal, it should be fresh meat, and small in quantity; one egg may be given at breakfast; one vegetable at dinner, such as spinach, celery, lettuce, or similar non-fermentable articles; some fresh fruit at supper. The only drink should be a moderate cup of warm skimmed milk.

It is difficult to regulate the diet of these subjects;

they have fierce appetites, and a fiercer way of indulging them; but every consideration should be brought to bear that may be effective in support of their own resolution.

Very often we have here as this morning, examples of difficult respiration, arising from reflex influences at a distance from the apparent seat of morbid action. Thus, asthmatic trouble from renal disease, renal asthma. Difficult breathing, of which the first intimation comes by hoarseness, may be the initial symptom of Bright's disease. But these and others we reserve for further consideration.

ORIGINAL ARTICLES.

ON THE ELIMINATION OF SULPHURETTED HYDROGEN ARTIFICIALLY INTRODUCED INTO THE BODY.

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AND

ON THE ACTION OF SULPHURETTED HYDROGEN ON CERTAIN MICROÖRGANISMS.

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THE observations which form the basis of this article were begun early last spring, shortly after the publication of the so-called Bergeon treatment of pulmonary phthisis by gaseous enemata; but delay in obtaining absolutely pure cultures of the bacillus tuberculosis has deferred the completion of the experiments until now, when the interest in the subject has to a great extent subsided. Many able articles indeed, which have appeared in periodical medical literature within the last few months, have nearly covered the ground which we intended to go over, and we shall therefore consider the questions involved very briefly.

If it could be shown that a substance, innocuous as far as the human organism is concerned, could be introduced into the body and be eliminated by certain avenues, destroying in its passage morbific germs, the ideal treatment of many diseases would be to a great extent realized. If such a method were applicable to one class of diseases dependent upon the existence or multiplication of microörganisms, it might logically be assumed that other diseases could be treated in the same way; and the possibilities of such measures of treatment could hardly be exaggerated. Inasmuch as many organisms which act as morbific agents must penetrate through the lungs, it would be natural to look for some germicide which would attack microörganisms in this situation; and the most effective way of reaching the materies morbi would be to introduce a germicide into the system by the alimentary canal or the subcutaneous tissue, provided it could be exhaled into the air-cells, and provided, always, that this could be done with safety. It was this idea, which logically followed the assertions of Bergeon, that led me to ask the assistance of Dr. Grauer in some experiments with sulphuretted hydrogen.

I proposed to leave out of the question, for the present, the apparent benefit derived by tuberculous patients from the treatment by gaseous enemata. The history of various so-called specifics for pulmonary phthisis shows with how much caution accounts of improvement in patients must be received. Much time must elapse and great numbers of cases, carefully observed under various conditions, must be recorded and analyzed before any positive conclusions can be reached as regards the results of any new method of treatment, particularly in this disease. Leaving, then, this consideration out of the question, I proposed to study the following problems:

1. Is sulphuretted hydrogen, introduced into the lower bowel, eliminated by the lungs?

2. Is sulphuretted hydrogen, injected in solution in water under the skin, eliminated by the lungs, and can it be safely introduced in this way?

3. What influence has sulphuretted hydrogen on certain microörganisms, particularly the bacillus tuberculosis?

In various communications that have recently been published on the gaseous enemata, it has been stated that sulphuretted hydrogen, mixed with carbonic acid gas and introduced in quantity into the large intestine, is eliminated by the lungs. Its detection in the expired air is very easy. A piece of white filtering paper, moistened with a solution of lead acetate and held before the mouth, will instantly reveal the presence of sulphuretted hydrogen in the breath, being discolored by the formation of lead sulphide. Gaseous enemata, after the method proposed by Bergeon, have repeatedly been employed in Bellevue Hospital. In many instances the breath has been tested during and after the enemata, and the characteristic reaction of sulphuretted hydrogen has never been observed. I made on May 2, 1887, a careful observation of this kind:

A man, thirty-two years of age, affected with pulmonary phthisis in the second stage, with considerable cough and expectoration, was the subject of this observation. He had been treated for some weeks with gaseous enemata, and thought he had received some benefit. The enemata were employed in the usual way. A bag was filled with about a gallon of carbonic acid gas freshly made and passed through a pint bottle of Sharon Springs sulphur-water, the emanations from which reacted promptly with lead acetate. Without giving in detail all the steps of the observation, I may simply state that during twenty minutes, while the injection was continued, there was no elimination of sulphuretted hydrogen by the lungs. I then substituted for the natural spring water a bottle of a saturated solution of sulphuretted hydrogen in distilled water. During fifteen minutes of this injection, there was no pulmonary elimination of sulphuretted hydrogen. The injection was then discontinued and the breath was tested at short intervals for an hour, always with negative results.

On May 5, 1887, I injected about half a fluid ounce of a saturated solution of sulphuretted hydrogen in water into the rectum of a dog, weighing 19 pounds. The breath was tested continuously during the ten minutes immediately following the injection, and then at intervals after the injection, as follows:

17, 25, 45, 60 and 90 minutes. There was no reaction of sulphuretted hydrogen.

On November 7, 1887, one fluid ounce of a saturated solution of sulphuretted hydrogen in water was injected into the rectum of a dog of medium size, and the breath was tested continuously for a number of minutes immediately following the operation. In three minutes and twenty-three seconds, the elimination of sulphuretted hydrogen began. This elimination continued for two minutes and fifty-three seconds, when it ceased. The reaction was distinct, but by no means so marked as when sulphuretted hydrogen is injected into a vein.

On April 25, 1887, I injected about one fluid drachm of a saturated solution of sulphuretted hydrogen into the stomach of a dog weighing 27 pounds, through a gastric fistula. This was not followed by the elimination of sulphuretted hydrogen by the lungs. Twenty-two minutes after the injection, the dog urinated, and part of the urine was obtained. This urine did not contain sulphuretted hydrogen.

In a number of experiments on dogs, I injected about three fluid drachms of a saturated solution of sulphuretted hydrogen under the skin of the flank, and careful and frequent tests of the breath, repeated from the time of the injection up to one or two hours after, at short intervals, failed to show the exhalation of sulphuretted hydrogen.

I have repeatedly injected sulphuretted hydrogen into the veins in dogs and have always noted a prompt elimination by the lungs; but this continues for a few seconds only, after the injection is discontinued. In an experiment made May 5, 1887, one fluid drachm of a saturated solution was injected into the external jugular vein of a dog weighing 22 pounds. The sulphuretted hydrogen appeared in the breath in three seconds after the injection was begun, and disappeared almost instantly after the injection was discontinued. The animal suffered no inconvenience from the operation. This is a repetition of an experiment by Bernard, well known to physiologists. Bernard also injected sulphuretted hydrogen, about a fluid ounce of a saturated solution, into the rectum of a dog. Elimination, in one experiment, began sixty-five seconds after the injection, but had ceased in five minutes.[1]

The following experiments were made by Dr. Frank Grauer, and are given in his own words.

EXPERIMENT I.—Small clippings of linen rags were thoroughly sterilized by being boiled in water for thirty minutes. In small watch-glasses that were thoroughly sterilized by means of a dry heat of 250° C. (482° F.), there was placed liquid gelatine containing different microörganisms; namely, Finkler and Prior's comma-bacillus of cholera nostras, typhoid bacillus, Koch's comma-bacillus of Asiatic cholera, and Friedländer's pneumococcus. The small clippings of rags which had been sterilized, were allowed to soak in the gelatine for ten minutes and were then carefully removed by means of a sterilized forceps and placed in sterilized tubes 4 inches long and $\frac{7}{8}$ of an inch in diameter, with both extremities open so as to allow a current of gas to pass directly through them. These tubes were then placed in a larger tube 14 inches long and 2 inches in diameter, and exposed to a strong current of sulphuretted hydrogen gas for twenty-five minutes. The gas was obtained by pouring sulphuric acid over ferrous sulphide, and then passing the gas evolved through a wash-bottle filled with distilled water. After the rags had been exposed to the gas, they were carefully removed and placed in test tubes one quarter full of liquid gelatine which became solid in a few moments. The object of liquefying the gelatine was to have the rags firmly embedded, so as to give the microörganisms all possible chances for growth. At the end of thirty-six hours, the growth of the different microorganisms was perceptible. Microscopical examination of each growth was made in order to exclude the following: First, the possibility of the growth of some other microörganism that might have lodged on the rags while passing from one tube to the other; second, the rags contain a certain quantity of sulphuretted hydrogen, which, coming in contact with the gelatine, produces a slight precipitation that to one unaccustomed to bacteriological investigations might be thought to be a growth due to microörganisms.

In contrast-experiments, the same steps and precautions were taken, with the exception that the rags were not exposed to sulphuretted hydrogen. Growth of microörganisms was perceptible in thirty-six hours.

The gelatine used in all these experiments was inoculated in the watch-glasses, by means of the platinum needle, with virus from pure cultures.

EXPERIMENT II.—Linen clippings, sterilized as in Experiment I., were soaked for two minutes in gelatine that had been inoculated twice with virus from pure cultures of Finkler and Prior's comma-bacillus and the pneumococcus. They were then exposed to a current of sulphuretted hydrogen gas for half an hour on three successive days, the object being to note the effect of repeated exposures. After the third exposure, the rags were embedded in gelatine in tubes as in Experiment I. Growth of microörganisms was observed in forty-eight hours.

In contrast-experiments, without exposure to sulphuretted hydrogen, growth of microörganisms occurred within twenty-four hours.

The delay, I think, in the growth in the rags exposed was not due to the sulphuretted hydrogen, but to retarded activity attributable to less favorable conditions of nutrition, etc.; for in subsequent experiments, in which rags had been kept for three days in a sterilized test-tube and were afterward put in gelatine, the growth was retarded by between twelve and twenty-four hours.

EXPERIMENT III.—Rags, sterilized and soaked for two minutes in gelatine that had been inoculated once with virus from cultures of typhoid bacillus, pneumococcus, and the comma-bacillus of Asiatic cholera, were exposed to a steady current of sulphuretted hydrogen gas and then embedded in gelatine in test-tubes. No growth was perceptible in twenty-two hours.

In contrast-experiments there was no growth.

The failure of growth in both instances was due, in my opinion, to the extreme dilution of the virus.

EXPERIMENT IV.—Rags sterilized and soaked with

[1] Bernard: Leçons sur les effets des substances toxiques et médicamenteuses. Paris, 1857, p. 59.

a gelatine that had been inoculated twice with anthrax bacillus and Koch's comma-bacillus were exposed to a current of sulphuretted hydrogen gas for an hour and were then embedded in gelatine in test-tubes. Growth of microörganisms was perceptible in thirty-six hours.

Growth of microörganisms was also observed in contrast-experiments.

EXPERIMENT V.—Rags sterilized and soaked in gelatine that had been inoculated twice with virus from pure cultures of anthrax and comma-bacillus were exposed for three hours to a steady current of sulphuretted hydrogen gas and then placed in gelatine in test-tubes. Growth of microörganisms was perceptible in thirty-six hours.

Contrast-experiments also showed growth of microörganisms in thirty-six hours.

EXPERIMENT VI.—Six test-tubes of liquid gelatine while cooling were exposed to sulphuretted hydrogen under pressure for two minutes and were then inoculated from pure cultures of pneumococcus, anthrax, and Asiatic cholera. Growth of microörganisms was perceptible twenty-four hours after inoculation.

EXPERIMENT VII.—A large test-tube of distilled water was thoroughly sterilized by boiling for four hours and then exposed to a steady current of sulphuretted hydrogen gas for three hours. Ten drops of this water were added to each one of six test-tubes one-quarter filled with liquid gelatine. After the gelatine had solidified, the tubes were inoculated with typhoid, anthrax, and comma-bacilli. At the end of twenty-four hours, growth of microörganisms was perceptible along the lines of inoculation.

EXPERIMENT VIII.—Ordinary Croton water, such as is used in New York, was exposed to sulphuretted hydrogen for twelve hours under good pressure. Fifteen drops of this water were added to each one of three test-tubes of liquid gelatine, which were set aside to await results. Forty-eight hours after, I examined specimens from the tubes with the microscope and found them filled with various kinds of microörganisms; showing that twelve hours of exposure to sulphuretted hydrogen did not affect the germs in ordinary drinking water.

EXPERIMENT IX.—Two test-tubes containing sterilized blood-serum were inoculated by the platinum wire with virus from a pure culture of tubercle bacillus and then exposed for two hours to a current of sulphuretted hydrogen gas. They were then kept at the temperature of the body in the brood-oven. At the end of two weeks, growth of microörganisms was noted over the entire surface of the blood-serum. At the same time, an old culture of tubercle bacillus was exposed to the gas for about three hours and was afterward used to inoculate two test-tubes of blood-serum. From these inoculations, beautiful growths developed in two weeks.

As far as my experiments and those of Dr. Grauer bear upon the questions proposed at the beginning of this article, the following answers may be given.

1. Is sulphuretted hydrogen, introduced into the lower bowel, eliminated by the lungs?

In the single experiment on the human subject which I have recited, and according to quite an extensive experience in Bellevue Hospital, sulphuretted hydrogen gas mixed with carbonic acid gas and injected according to Bergeon's method is not eliminated by the lungs. That it may be eliminated in small quantity under certain conditions, is possible; but the quantity of gas thus thrown off must be very small. How far the carbonic acid acts as a vehicle carrying the sulphuretted hydrogen to the lungs, I cannot say, as I have not found the sulphuretted hydrogen in the expired air.

In one experiment on a dog, there was no pulmonary exhalation of sulphuretted hydrogen after the injection of half an ounce of a saturated solution in water into the rectum. There was a slight but distinct elimination following the injection of an ounce of a saturated solution into the rectum of a dog, the elimination lasting a little less than three minutes.

It would appear from these observations, that a certain quantity of sulphuretted hydrogen introduced, even in saturated aqueous solution, may be destroyed in some way in the system without being eliminated as sulphuretted hydrogen.

2. Is sulphuretted hydrogen, injected in solution in water under the skin, eliminated by the lungs, and can it be safely introduced in this way?

My experiments show that such injections may be safely made, and that the sulphuretted hydrogen, thus introduced, is not eliminated by the lungs. I have no theory to offer as to the mode of its decomposition in the system.

3. What influence has sulphuretted hydrogen on certain microörganisms, particularly the bacillus tuberculosis?

The experiments of Dr. Grauer—which were devised and executed by himself, I having merely suggested the questions to be answered—are very definite in their results, although these results are entirely negative. These experiments fail to show any marked influence upon the organisms of typhoid fever, pneumonic fever, anthrax, cholera nostras, Asiatic cholera or the bacillus tuberculosis. They also fail to show any influence upon various microörganisms found in ordinary drinking water.

Whether the Bergeon treatment of pulmonary phthisis be or be not useful, either as a palliative or as a curative measure, extensive clinical experience must decide; but the theories by which a supposed palliative or curative influence is explained have thus far no foundation in fact. Sulphuretted hydrogen, injected according to the method proposed by Bergeon, seldom appears in the expired air. When introduced in such quantity and in such a way that it is eliminated by the lungs, the time of elimination is very brief, lasting from a few seconds to about three minutes. It is hardly reasonable to suppose that this brief and imperfect exhalation of sulphuretted hydrogen could have any beneficial effects. If the assumed benefit be due to sulphuretted hydrogen, this agent must act in some way not connected with its elimination by the lungs. It is possible that carbonic acid may aid in the elimination of matters of a character unknown, or that this gas itself may affect certain microörganisms; but our experiments do not bear upon this question. It is certain that

sulphuretted hydrogen has no sensible effect upon the growth of the bacillus tuberculosis in proper nutritive media, and that it is equally inert as regards the organisms of typhoid fever, pneumonic fever, anthrax, cholera nostras, and Asiatic cholera.

Finally, according to the *Medical Record*, the treatment of certain diseases by gaseous enemata is by no means new. "The rectal injection of 'fixed air' was recommended long ago by Priestley as of great utility in 'putrid diseases,' and Percival in 1768, and McBride in 1776, reported marvellous results from this method in pulmonary phthisis."[1]

LAPAROTOMY FOR INTRA-PERITONEAL RUPTURE OF THE BLADDER.

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THE following case came under my care during the summer of 1886 while substituting for Dr. T. G. Morton at the Pennsylvania Hospital.

CASE. *Intra-peritoneal rupture of the bladder; abdominal section; death.*—Edward M., aged forty-five years, laborer, was admitted into the hospital, August 16, 1886. He had been intoxicated the previous evening and went to sleep on a lounge in the house of a friend; about one o'clock in the morning, while walking in his sleep, he fell out of an open window to the pavement ten feet below. He passed his water four hours before the accident, but had been unable to pass any since, although he had a constant desire to urinate.

Upon admission the patient, a healthy-looking man of medium size, was found to have a fracture through the neck of the right femur, and as he complained of pain in the lower part of his abdomen with the desire but inability to urinate, the resident surgeon passed a soft catheter and drew off three ounces of bloody urine. When I saw him a metallic catheter was passed and a pint of bloody urine drawn off; the urine was drawn with difficulty, the catheter, as was afterward evident, having passed through the tear in the bladder into the abdominal cavity.

The condition of the patient just previous to the operation was as follows: He was very restless and had an anxious expression, his abdomen was distended and tender to the touch, he complained of pain in the abdomen and lower part of the rectum, and he had vomited twice; the respirations were frequent, his pulse 100, and his temperature 99½°.

Dr. John B. Roberts, at the time substituting for Dr. Levis, saw the case with me in consultation, and agreed in the diagnosis of probable intra-peritoneal rupture of the bladder, and to the advisability of performing laparotomy as giving the man his only chance for recovering, and he also assisted me in the operation.

Operation at 8.30 P. M., nearly twenty hours after the accident. After etherization the abdomen was opened under strict antiseptic precautions, the spray only being omitted, by a small incision in the median line just above the pubes, the finger was inserted into the abdominal cavity and the tear in the bladder felt, the incision was then increased to four inches extending from the pubes upward.

About a pint and a half of bloody urine with a few small blood-clots were removed from the abdominal cavity; the intestines were found deeply injected; the bladder was contracted, with its superior surface torn completely across from side to side, the tear being, in the contracted state of the organ, about two and a half inches in length. The bladder was held forward while the stitches were being introduced by drawing upon two pieces of catgut passed through the bladder on either side of the tear, fifteen Lembert catgut sutures being required to sew it up, the bladder was then tested and found to hold three or four ounces of warm water without leaking.

The abdominal cavity was cleansed by pouring in several quarts of a warm solution of bichloride of mercury (1 to 6000), and dried with sponges. The abdominal incision was brought together with interrupted catgut sutures, a drainage tube being first inserted a short distance into the abdominal cavity, and an iodoform and bichloride gauze dressing applied. A soft catheter was passed through the urethra and left in the bladder. The time occupied by the operation was about one hour and a quarter. The pulse at the end of the operation was 120, and his general condition quite good.

On the following morning his pulse was 140 and was much weaker, the respirations were more frequent and his temperature 101°; his abdomen was tympanitic and tender to the touch, and there had been a considerable discharge of blood-stained serum through the drainage tube; several ounces of urine had passed through the catheter.

As he complained of abdominal pain and was somewhat restless he was ordered opium, and was also given small quantities of whiskey, milk, and ice.

In the evening he was worse, having vomited several times through the day.

Aug. 18th, the signs of peritonitis had become more marked, the respirations were very frequent and shallow, pulse was 160 and very weak, and his temperature was 101°; he continued to fail and died about noon, thirty-nine hours after the operation.

Autopsy.—The abdomen was much distended; the abdominal incision looked well. There was found about a half ounce of bloody serum in the abdominal cavity; the intestines were deeply injected and showed signs of peritonitis, being slightly coated in places with lymph, and two or three coils were bound together with recent adhesions. The bladder was contracted and found perfectly empty, and the stitches had all held; it was tested and held three ounces of water without leaking.

REMARKS.—Death was due in this case to urinary intoxication and peritonitis, caused by the length of time the peritoneum was exposed to the urine after the injury, before the operation was performed (twenty hours).

I regret very much not having washed out the abdominal cavity more thoroughly; it was simply washed by pouring in the bichloride solution, which, of course, reached only the viscera in the lower portion of the abdomen; if the latter had been

[1] Medical Record, August 13, 1887, p. 192.

thoroughly washed out the peritonitis might have been checked.

Very little difficulty was experienced in introducing the sutures into the bladder, as the latter was drawn well forward by pulling upon the two pieces of catgut passed through on either side of the tear; the intestines were kept out of the way with sponges and gave very little trouble.

The incision, four inches in length, was found longer than necessary, as the abdominal walls contained very little fat—a three inch incision would have been long enough.

The diagnosis was made from the abdominal symptoms, the inability to urinate, and the bloody urine drawn off by the catheter; had the metallic catheter been felt for through the abdominal walls when it passed through the tear in the bladder, its tip could have been felt just beneath the belly wall, and this, with its extreme freedom of motion, would have been a positive sign of rupture of the bladder.

Intra-peritoneal rupture of the bladder is a comparatively rare injury, and has nearly always proved fatal. Of the few cases that have recovered, five were treated by abdominal section; Rivington,[1] in 1882, collected one hundred and twenty-nine cases of this injury with eight reported recoveries; of these recoveries one was Walter's case of abdominal section, and another was Morris's case,[2] which recovered without any operative treatment; in the other six cases the correctness of the diagnosis has been doubted by such high authorities, Rivington himself among the number, that any estimate of the percentage of recoveries in different methods of treatment other than by laparotomy, is valueless. Moreover, in the light of modern abdominal surgery, the treatment by laparotomy is the only one that offers any reasonable prospect of success.

In Sir William MacCormac's table[3] of cases of abdominal section for rupture of the bladder he gives sixteen cases in which this operation had been performed up to that time; in two of these the rupture was extra-peritoneal, and in one other there seems to be doubt of its having been intra-peritoneal; therefore, leaving out these three cases, and adding the one since reported by Mr. Holmes[4] (successful), we have fourteen cases in which laparotomy has been performed up to the present time for the relief of this injury, with five recoveries, namely, the two cases of MacCormac's, and one each by Walters, Walsham, and Holmes. Out of the fourteen cases three have been operated upon in this country, with one recovery, that of Walters. Of the five recoveries, in one the rent in the bladder was not sutured, but abdominal drainage, and a catheter tied in the bladder were relied upon; in the other four cases the tear was sewed up with the Lembert suture, fine silk being used in three of them, in the other one the material used is not stated.

Of the nine fatal cases, in three some of the bladder sutures were found at the *post mortem* to have given way, and in two of these at least catgut had been used for the sutures; one of the other cases died from peritonitis, the bladder wound not having been sutured; one died from exhaustion following a secondary hemorrhage from a perineal wound, perineal cystotomy having been performed, and one from suppression of urine; of the other three cases two died from shock, one of them having the bladder injury complicated with a fracture of the pelvis, and the remaining case (my own) from urinary intoxication and peritonitis.

From the study of these few cases I think we are justified in drawing the following conclusions: Silk is the best material for the bladder sutures, catgut not being safe; the Lembert suture should be used, and the muscular, as well as the peritoneal coat, included in the stitches. If difficulty is experienced in getting at the tear in the bladder to introduce the stitches, as quite often seems to be the case, an air tampon can be passed into the rectum and distended, as was done by McGill, to raise the bladder out of the pelvis; or the peritoneum can be divided at the sides of the bladder, as was done by MacCormac in both of his cases; or the bladder can be drawn forward by the method which succeeded perfectly in my case, care being taken not to include the mucous coat in the material used for the traction.

Holmes thinks it unnecessary to test the bladder wound after it has been sutured, by injecting fluid into the bladder through the urethra, but it can do no harm, and in two cases at least, in which it was so tested, leaks were found and remedied by additional sutures. The abdominal cavity should be thoroughly washed out before closing, either with warm water or a weak antiseptic fluid.

Cystotomy should not be performed unless the rupture is extra-peritoneal also. MacCormac advises, instead of leaving a catheter in the bladder, to draw off the water every three or four hours with a soft catheter; this certainly would be an advantage if it is safe, as it would seem to be, for it was done in two of the successful cases, and in one of the others it was unnecessary, as he passed his water voluntarily from the first; but if any doubt is felt, the catheter can be left in for a few hours until some union has taken place between the peritoneal surfaces.

Although abdominal section for this injury is hardly alluded to in medical works, yet from the recent great advances made in abdominal surgery I think no surgeon of the present day would hesitate to perform laparotomy for the treatment of intra-peritoneal rupture of the bladder. The future of this operation, I think, is very bright, and I believe it will show more successful results than abdominal section for any other form of intra-peritoneal injury, saving the large majority of cases from what was considered, but a very short time ago, a necessarily fatal injury.

[1] Rivington: Lancet, 1882.
[2] Morris: Brit. Med. Journ., 1887, ii. 454
[3] Brit. Med. Journ., 1887, i. 1036. [4] Lancet, 1887, ii. 153.

A HEAT CENTRE IN THE CORTEX CEREBRI. A PRELIMINARY NOTE.

By ISAAC OTT, M.D.,
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FROM a series of researches upon the lower animals, I am enabled to state that a centre exists about the juncture of the supersylvian and postsylvian fissures,

which, when mechanically destroyed, causes a rise of temperature, persisting for several days. The increase of temperature is from three to four degrees, and is caused by an increased production of heat. This augmentation of heat-production continues at the end of twenty-four hours after the date of lesion of the brain, as measured by the calorimeter of d'Arsonval, although the weight of the animal is falling.

It is well known that at the anterior part of the cortex, just posterior to the cruciate sulcus, Eulenberg and Landois have also discovered a centre which causes a rise of temperature, especially in the extremities of the side opposite the lesion, but not in the trunk. The centre in the postero-lateral part of the cortex causes an increase of temperature in all parts of the body. Details will be published hereafter.

CASE OF CEREBRAL ABSCESS; OPERATION; RECOVERY.

BY L. D. WILSON, M.D.,
OF WHEELING, W. VA.

THE cavity of the abdomen having at length been pretty thoroughly ransacked, it is evident from the recent tendency of enterprising surgery, that the cranial cavity will shortly have to undergo a similar experience. As a contribution to the results already attained in this direction, the following case is reported. It is proper to state that the history, up to a little more than a week prior to the operation, was obtained from the patient's mother, who until that time had resided in a distant city, and it is somewhat unsatisfactory on certain points, owing to the fact that a severe domestic affliction overtook her during the progress of the case, which distracted her attention in another direction for a considerable time. It is reasonably certain, however, that the account there given is correct in every material particular.

CASE.—J. J., a well developed boy, eleven and a half years old, while snow-balling, in the latter part of January, 1887, fell, striking his head on a railroad coupling-pin. He was for a short time unconscious, but had recovered consciousness when brought home about two hours afterward. It was found that he had sustained a scalp-wound about a third of an inch in length, penetrating to the bone, its situation being on the right side of the head, two and a quarter inches above the outer orbital angle, one and three-quarters inches to the right of the median line, and one and three-quarters inches anterior to the coronal suture. It had bled freely, to restrain which cold water and snow had been liberally applied before he was taken home. No signs of injury of the skull were observed. Recovery seemed to take place promptly, and the boy continued to go to school.

About ten days afterward his appetite began to fail, and on the fifteenth day after the accident, he complained of severe pain in the head and shivering. This was followed during the day by vomiting. For a considerable time after this, the stomach continued to be extremely irritable, so much so that, to use the words of his mother, "nothing would lie on it for five or six weeks." Then the vomiting rather suddenly ceased and did not return. In a week after the vomiting began, the pulse-rate had fallen to 40, and a week later it rose again to 70–80, at which it remained. The pain in the head, which during all this time had been severe and continuous, now began to be intermittent, but at the same time very excruciating. It was always complained of as being especially severe in the *teeth*, and a part of the time there was also pain in the *right* hip. About four weeks after pain and vomiting began, convulsions set in, at first five or six a day, gradually diminishing in number to two or three a week, until about July 1st, when they began again to be more frequent and severe. The convulsions were early followed by paralysis of the *right* arm and loss of power in *both* legs, but these symptoms disappeared about the 1st of June, up to which time the boy had been confined to bed. After this date he was able to walk about, but would fall suddenly when convulsive attacks came on, and his gait was awkward at all times. As soon as the vomiting ceased he began to eat voraciously, and a great increase in flesh followed; the abdomen became enlarged and the face lost expression.

About the 1st of July, he was brought to this city and placed under the care of Dr. George Baird. At this time, in addition to the symptoms first detailed, he presented the following. The face was slightly drawn to the *left; right* eye totally blind, and very great impairment of vision in the *left;* both pupils dilated; a slight convergent squint; noises and impaired hearing in right ear; complete loss of sense of smell; tongue partially paralyzed, but sense of taste not affected; urine scanty; sleep disturbed; speech slow; some mental dulness, but no impairment of memory. The symptoms being clearly referable to the preceding injury, it was speedily determined that an operation offered the best chance of relief, and accordingly, on July 9th, at the instance of Dr. Baird, and with the assistance of himself and his son Dr. R. M. Baird, the skull was trephined at the site of the original injury. The cicatrix was found to be somewhat depressed and very tender on pressure. On reflecting the soft parts, the external table presented no evidences of injury except a small perforation sufficient to admit a small probe, which extended through the entire thickness of the bone. On removing the disk of bone no change in its internal surface was observed except the small perforation mentioned. The dura mater, which bulged moderately into the opening, was then incised with a narrow bistoury, and immediately a jet of pus spurted out a distance of three or four feet, and so continued for several seconds until the opening was enlarged with scissors. It then flowed out freely, and at a moderate estimate the quantity discharged was fully three ounces. When the flow ceased, a drainage tube was inserted and the scalp-flap replaced and sutured.

The wound discharged freely for several days, when the tube was removed and the wound healed promptly, except at one point where a small fistulous opening remained for a time, occasionally discharging small quantities of serous fluid. It permanently closed in about a month.

As a result of the operation, the pain and convulsions at once ceased, the boy began to sleep well, the appetite became natural, the superabundant flesh gradually disappeared, the natural expression of countenance returned, vision in the left eye improved, and returned in the right eye to a limited degree, hearing in the affected ear became much better, there has been a slight return of the sense of smell, and the functions of all the paralyzed muscles have been restored. The boy seems to have entirely recovered his usual health. His pupils are still moderately dilated and there remains also a slight squint.

Through the kindness of Dr. W. S. Hutchins, of this city, I am able to present the following report of an examination of the eyes made by him at my request.

"*October 15, 1887.* Pupils considerably enlarged. Examination with test-types shows R. $\frac{1}{200}+2.25$ D. $=\frac{8}{200}$. L. $\frac{6}{200}+2.25$ D. $=\frac{8}{200}$. Dilated pupils with duboisia, which did not alter above result with test-types. Ophthalmoscopic appearance as follows: Right eye: cornea, iris, and media normal; papilla white, much swollen; central vessels appear to emerge from apex of a cone, the base of which spreads far beyond and obscures the disk entirely. Vessels diminished in size and tortuous, can be clearly seen over swollen papilla, but much less so over retina, which is infiltrated and has decided lack of transparency. There are dense opacities seen along the line of ascending vessels, in upper nasal quadrant—glistening patches with striated edges. In upper outer quadrant, quite a collection of these brilliant spots or opacities near the equator. In the lower hemisphere, these spots are scattered here and there over the retina, between the vessels mostly, but occasionally being over and hiding a portion of the vessel from view. Left eye: cornea, iris, and media normal; papilla very nearly normal; outline of disk clear; vessels, however, are smaller and tortuous; retina infiltrated, but less so than that of right eye; few small white shining patches scattered over surface of retina with an occasional spot along course of vessel; one small collection lies near the equator on the nasal side of the disk."

I have had opportunity during the past three or four years to examine two cases of cerebral abscess, post-mortem, both the result of external violence. Both of these were associated with slight fracture, one involving the external table only, the other including both, with a small, depressed, pointed fragment pressing upon the dura mater. In the first of these, a small abscess containing about a drachm of pus was found in the brain beneath the seat of fracture, and three others of similar size, and not communicating with the first, or with each other, were found at varying depths in the same hemisphere. Operative measures here would no doubt have been disappointing, as neither the presence nor site of other abscesses than the one primarily sought for would likely have been suspected in time to permit successful interference. In the latter case, a single large abscess was found in the cerebrum beneath the external wound, and in addition there was a considerable extravasation of pus between the brain and dura mater, causing marked flattening of the convolutions. An early operation in this case would have afforded as fair a chance of success as in the one here reported.

NOVEMBER 7, 1887.

DIABETES MELLITUS IN AN INFANT.

BY J. Y. DALE, M.D.,
OF LEMONT, PA.

THE rarity of diabetes mellitus during infancy is probably a sufficient excuse for reporting the following case:

The patient, a female child, aged twenty-one months, when first brought to me for treatment, on February 13, 1887, did not seem very ill, and the symptoms, as related by her mother, indicated slight gastro-intestinal derangement. Ten days subsequently the child, having grown worse, was once more prescribed for, but was not again visited until March 1st, by which time the disease had developed to such an extent as to cause its true nature to be easily recognized.

The child had been weaned at the age of nineteen months, and the mother now recalls that thereafter it drank water freely, but the thirst and frequent micturition became prominent only during the latter part of February.

At this time (March 1st) the following symptoms were present: she had constant thirst during the daytime, passing a large amount of urine, which her mother said was "sticky," and had a sweet odor. During the night the thirst was not so urgent, and she slept well; appetite and digestion good; bowels moved naturally; abdomen prominent; was losing flesh and strength rapidly; sometimes was bright and playful, but generally inclined to lie in the cradle during the greater portion of the day.

For obvious reasons it was difficult to estimate the quantity of urine passed, or to procure any for examination; but, on the third of March, a sample was furnished, which was of a pale straw color, acid, with a specific gravity of 1038. Heat and nitric acid produced a slight flocculent deposit, and Trommer's test showed a large percentage of sugar.

On March 4th the patient grew worse rapidly; on the 5th there was great dyspnœa, with short, quick respirations, followed by drowsiness and deep coma—death occurring on the 6th.

In endeavoring to find a possible cause for the disease, it was ascertained that the child had several hard falls on the back of her head during the summer of 1886, from which she suffered severely.

HOSPITAL NOTES.

TREATMENT OF TYPHOID FEVER IN THE PHILADELPHIA HOSPITALS.

PENNSYLVANIA HOSPITAL.

DR. DA COSTA does not adopt any specific plan of treatment, although he generally administers the mineral acids; of these he most often prescribes nitro-muriatic acid, twenty drops of the dilute acid every fourth hour. He does not interfere with the action of the bowels, unless the discharges exceed three, when

he is most apt to order opium, in the shape of suppository.

He insists upon the patient being fed with liquid food every two hours during the day-time, but not quite so often at night. He generally begins with stimulus in the second week of the disease, taking as his guide the state of the first sound of the heart. Rarely, however, does he give more than from eight to ten ounces of whiskey in twenty-four hours.

The patient is sponged with cool water twice daily, oftener if the temperature exceed 103°. Under these circumstances, too, an occasional decided dose of quinine, or antipyrine is resorted to, particularly if the high temperature be in the morning or show signs of persistency. He is an advocate of being very watchful for complications, and for their early treatment. Late in the fever and during convalescence he generally directs quinine.

PHILADELPHIA HOSPITAL.

DR. TYSON'S treatment of typhoid fever is mainly a symptomatic one. Placing the patient upon a milk diet from the outset, and continuing it until convalescence is established, symptoms are treated as they arise. Diarrhœa is preferably controlled by nitrate of silver and the extract of opium, one-quarter grain of each three or four times a day. In more obstinate cases of diarrhœa where this treatment fails, although seldom necessary, the more powerful astringent acetate of lead, and more rarely tannin, is substituted for the nitrate of silver. Abdominal pain and tenderness are treated with poultices in addition to opium.

High temperature (104° to 105°) is combated by sponging the body. Persistent temperature above 105° is treated by wrapping the trunk with cloths wrung out in iced water, which are renewed every hour or half hour, and even oftener if necessary, the temperature under these circumstances being taken hourly. Quinine is given in almost every case, not as an antipyretic, but as a tonic and stimulant in doses of from six to sixteen grains daily. The stage of dry tongue is treated with turpentine in doses of ten drops every three hours.

Alcoholic stimulants are used in almost every case as required: moderately in mild cases, and in full doses in severe cases, frequently half an ounce every two hours. Sometimes larger doses are given. *Very high temperatures are regarded as demanding the fullest stimulation.* Dr. Tyson has used largely the modern antipyretics, thallin, antipyrin, and antifebrin, but considers them inferior to the iced cloths. Of these antipyretics, however, he prefers antifebrin as less alarming in its effects, and equally efficient with the others in reducing temperature.

DR. E. T. BRUEN conducts his treatment without reference to the administration of specifics. During the first few days, especially in the fall of the year, when malarial influences prevail, it is customary to give for one or two days full doses of quinine for diagnostic purposes. If the continued nature of the fever is demonstrated an expectant plan of treatment is inaugurated, which in mild cases is continued throughout the course of the disease till its termination.

If the temperature exceeds 104°, sponging with cool or cold water is the means usually adopted. The sponging must be repeated every few hours. Sometimes cold water in rubber bags is applied to the back of the head and abdomen. The cold bath is reserved for those exceptional cases in which the high temperature seems to be influencing the nervous centres. The cold water bath he believes can be employed in the early stages of the fever with more safety than later on, since the vasomotor centres are much more responsive and dangerous congestions of the viscera are avoided. The administration of antipyretics, such as antipyrin or antifebrin, so useful in the zymotic fevers of childhood or in the hectic of consumption, is to be avoided in typhoid fever for fear of disturbing the activity of the stomach. When the typhoid state is marked, associated with high temperature, the occasional use of antifebrin, in five grain doses, is desirable and preferable to the cold bath. But persistent systematic sponging of the surface of the body in the usual order is the safest and best means in his hands of reducing temperature in typhoid fever. Quinine is employed in tonic doses, but not as an antipyretic.

Great stress is laid upon the administration of nourishment. From four to six ounces of milk should be given every two hours for eighteen hours out of the twenty-four. An interval of five hours once in the twenty-four should be secured to foster the digestive powers. Care should be taken to prevent the coagulation of the casein by dilution with Apollinaris or lime-water; one or two raw eggs may be administered every other day. This method of diet is relied upon till convalescence is inaugurated, when the beef broths, prepared with some cereal, are allowed. The importance of delaying the use of meats until the temperature has been quite normal for more than a week, cannot be overestimated, and the first solid diet permitted to convalescents is farinaceous in character.

When diarrhœa manifests itself, nitrate of silver in $\frac{1}{8}$th grain doses with $\frac{1}{24}$th of ext. opium is given every four hours, with opium suppositories, if necessary, in addition. In the majority of cases this is sufficient; but acetate of lead is resorted to in case of failure. Turpentine in emulsion (with muriatic acid in cases in which silver is not used) is always employed as soon as the typhoid state begins. The general stimulative properties of turpentine, aside from its local effects, render it invaluable in a majority of cases. Constipation of the bowels must be avoided, and every other day at least the bowels should be moved. Enemata, carefully given, seem to him the best mode of securing the desired end.

Internal congestions are antagonized by changing the position of the patient, by turpentine stupes, and by cupping the chest when the lungs are the organs involved. A cotton jacket neatly made and applied, is very useful under these circumstances. Hemorrhages from the bowels are treated with opium and acetate of lead. In order to stimulate the circulation whiskey is given early in the history of those cases in which high temperature marks the reception of a full supply of the typhoid poison, and the advent of the initial symptoms of the typhoid state are carefully looked for even in those patients in whom the mild character of the symptoms does not seem to call for stimulation. Those patients who have been habitual free consumers of alcohol require the largest amounts of this drug during typhoid fever. It is important, whenever practicable,

to suspend the medicine, as well as the food, for one five-hour interval in the twenty-four in order to avoid overtasking the stomach.

EPISCOPAL HOSPITAL.

DR. FREDERICK P. HENRY, in treating the cases in his wards, seeks to control diarrhœa and allay its attendant peristalsis; to subdue nervous excitement, and to keep the temperature within moderate bounds. To accomplish these ends, the nutrition, stimulation, and medication of the patient receive the most careful attention. While the fever lasts, the diet is altogether liquid and consists of milk with lime water, and animal broths. In giving these substances he endeavors to proportion their amount to the patient's digestive powers, for, to quote the language of Collie, without fully accepting it "pints of milk and eggs in the stomach or bowels undigested are about as useful there as a cannon ball."

When convalescence begins and farinaceous foods are first administered, a slight rise of temperature is the rule. This does not contraindicate their continued employment, but may be regarded as physiological.

Stimulants are not given as a matter of routine, but only *pro re nata*. It is seldom that more than six ounces of whiskey are given *per diem*, and a certain number of mild cases receive no alcohol whatever. When diarrhœa is obstinate, port wine is substituted for whiskey.

Heroic measures have never been in vogue at this hospital, and, therefore, an attitude of "masterly inactivity" was preserved during the period of the cold bath craze. A more gradual, and, therefore, a more physiological effect, certainly one more soothing to the nervous system, is obtained by repeated sponging with tepid water. The latter method may be compared to a hint; the former to a denial, and in dealing with men's bodies as with their minds, suggestion, so to speak, is better than contradiction.

Some ten years ago, quinine was given in large amount—gr. xv to xx in the course of an hour—for its antipyretic effect, but this method was soon abandoned, and for several years the doses of this drug have not exceeded gr. xij *per diem*. To this extent it has been, until quite recently, administered as a matter of routine. Antipyrin and antifebrin have been thoroughly tested, and the opinion with reference to them is that they should be used with caution and reserved for emergencies of hyperpyrexia. The rapid descent of temperature produced by these remarkable agents has been, in rare instances, attended with a somewhat alarming condition of collapse. Fifteen grains of antipyrin given in three doses in the course of a half hour are, as a rule, sufficient to produce a decided effect, and Dr. Henry possesses a temperature chart, which shows that, on several occasions, five grains of antifebrin have caused a defervescence of from 4.5° to 5° F. In another chart a fall of nearly 6° (from 103.6° to 98°) was effected by the same dose. A decided impression upon the temperature has often been made by doses of 2.5 grains.

The benefits to be derived from turpentine are problematical, which is not to be wondered at, when it is recalled that the gastric mucosa is always in a hyperæmic or catarrhal condition, and has been more than once observed to be the seat of the specific typhoid deposit and ulceration. Accordingly, this drug is but little used. Opium suppositories are mainly relied on to check excessive diarrhœa and allay peristalsis, and, when they prove insufficient, astringents, such as acetate of lead and gallic acid, are given *per os;* a moderate diarrhœa is never interfered with. By moderate, as here employed, is understood from three to six gruel- or mush-like evacuations in the twenty-four hours. The same drugs that are used to control diarrhœa are, with the addition of ergot, administered in case of intestinal hemorrhage. When tympany is great, powdered charcoal and enemata of tepid water have been found of decided benefit.

The treatment outlined above may be described as symptomatic and expectant. It is, in no sense of the word, specific. The latter adjective may be applied, with propriety, to measures which have as their object, the shortening of the course of the disease, or the mitigation of its severity, and which are addressed to the specific intestinal lesions. Such measures have not been neglected in the Episcopal Hospital. Nitrate of silver, carbolic acid and iodine, and Labarraque's solution have been systematically tested, but Dr. Henry believes them to be, one and all, inferior to thymol. He has given his experience with this drug in a recent contribution to THE MEDICAL NEWS (Sept. 3, 1887), to which the reader is referred, and, since that time, he has received confirmation of his statements from several sources. "The favorable effect of the drug was evinced by a steady descent of the temperature, by a gradual diminution in the daily number of stools, by the absence of mental excitement, and, most conspicuously, by the clean, moist tongue presented in every instance. . . . I have always prescribed the thymol in pill, of which the best excipient is medicinal soap, and, so far, have not given more than thirty grains in twenty-four hours, two 2½ grain pills every four hours. This is a small dose, but I have seen no reason to increase it. This may be done, however, with perfect safety, and, perhaps, with still better results."

Quite as good results have been claimed for naphthalin, but, so far as he knows, it has not been used in the Episcopal Hospital, and, other things being equal, the comparative innocuousness of thymol should entitle it to the preference.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

DR. PEPPER holds that there is no disease more influenced than this in its later course and result by the management of its initial period. Whenever there is the least suspicion that typhoid fever is beginning the patient should have the benefit of the doubt, and from that moment should be treated with strict thoroughness. Sometimes this will induce abortion of the case, for it is one of the diseases which is, so to speak, self-perpetuating, owing to the continual development of the materies morbi in the intestinal canal so long as the contents afford a suitable culture medium.

This condition is much affected by the diet, and by agents which influence the lesions of the intestinal glands. It is well to repeat that from the earliest moment we must insist on absolute rest. Much harm is done by postponing for two or three days the necessary

confinement to bed. So should an absolute restriction of diet be imposed at once. It seems to Dr. Pepper that the intestinal canal is kept in the best condition when from the earliest hour the diet has consisted exclusively of milk, light gruels or broths, and pure water. Milk may seem to disagree, but it will then usually be found that it has been given in too large amounts or at too short intervals or that to enable it to be digested it must be diluted or peptonized. For patients with typhoid fever must be fed, not on theory, but according to the observed effects of the food given. Tympany and diarrhœa are often the result of excessive or improper feeding, although more commonly they may be caused by the enfeebled state of the muscles of the intestinal and abdominal walls, and by the lesions of the mucous membrane. Under the influence of the unqualified dictum that fevers should be fed, a dictum much more universally applicable to typhus than to typhoid fever, many cases of the latter are injured by injudicious feeding. Not only may tympany and diarrhœa be promoted thereby, but the accumulation of imperfectly digested organic matter in the bowels may favor the multiplication of the specific materies morbi, and also the development of ptomaines. This question of feeding is, therefore, the fundamental one in typhoid fever, and should be treated with caution and minute attention in each case.

Next in importance seems the administration of some remedy directed to the invariably present lesion of the intestinal glands. Drugs which exert a sedative astringent effect, which do not hurt the stomach, and which are antiseptic either directly or by their action on albuminoids, would seem to be indicated; and Dr. Pepper thinks that some such remedy should form a part of our treatment of every case of typhoid fever, from the earliest hour when we suspect the nature of the case. Creasote, carbolic acid, iodoform, mineral acids, especially muriatic and sulphurous, and nitrate of silver, suggest themselves. In the great majority of cases he much prefers nitrate of silver, and since he revived the use of the remedy in typhoid fever it has been employed so extensively and with such admirable results as to have established its value. It is given from the outset, in doses of gr. $\frac{1}{4}$ to gr. $\frac{1}{3}$ thrice daily, combined with small amounts of opium, or belladonna, or nux vomica, according to special indications. He has come to believe that the appearance of dangerous symptoms is rendered less frequent, and the entire course of the disease rendered more favorable by the early use of this remedy in conjunction with an early insistance on absolute rest and carefully adjusted feeding.

When the typhoid symptoms become pronounced, especially the dry, brown, tremulous tongue with weak heart, and paretic tympany, he substitutes, or adds, turpentine. When the tongue remains moist but is flabby and white coated, the bowels torpid, and the secretions scanty, the mineral acids with strychnia in solution seem indicated. Space forbids mention of the obvious indications in certain cases for other remedies of this group. Alcohol is required sooner or later in most cases of typhoid fever, yet he never prescribes it except when definite indications call for it. These indications are sought in the character of the cardiac action, of the nervous symptoms, of the digestion, and of the pyrexia. By withholding it until called for, and then giving it in small doses, and by cautiously increasing the dose and strength of the preparation used, we secure all possible benefit, and avoid the harm which follows here, as elsewhere, its excessive or untimely use.

Nearly always also there arises in the course of typhoid fever the necessity of controlling the pyrexia. But this necessity will be less frequent in proportion as the elements of treatment already insisted on are early and thoroughly attended to. So long as the temperature remains reasonably low, 102½° to 103°, and no nervous or cardiac symptoms appear attributable to the mere pyrexia, we need pay no special attention to it. But at any time, even during the earliest days, the fever may reach a point requiring interference. If quinine has been given in moderate doses, as is often the case, one or two full doses are now used, but recent experience had led to a preference for antipyrin when only an occasional antipyretic effect is required, or to the external use of cold water by sponging or affusion when the tendency to hyperpyrexia shows more obstinacy.

DR. OSLER believes a plan of armed expectancy to be, in the present state of our knowledge, the most rational. The majority of the cases require little or no medicinal treatment. The routine of a restricted diet under the watchful care of an intelligent nurse, meets the *indicatio morbi*.

No initial purge is given, as the cases are never brought to hospital very early, and constipation is not dreaded. An acid mixture is sometimes ordered, or dilute hydrochloric acid is added to the water, which is given freely. As it is possible that the defective elimination of the products of regressive tissue changes may be, in part at least, the cause of the so-called typhoid symptoms, every effort is made to keep active the skin and kidneys. Repeated spongings and an abundance of fresh cool water to drink, answer the purpose.

A milk diet is ordered—about three pints in the twenty-four hours. Very exceptionally it has to be artificially prepared. An examination of the stools will often indicate if too much milk is taken, or if it is not digested. Warm milk is less apt to produce flatulence. Broths and beaten-up eggs are allowed in mild cases.

When the fever reaches 103°–104°, the spongings are more frequently used. If it rises higher—104°–105°—the wet pack is ordered, or a dose of antipyrin or antifebrin, either of which acts promptly. The cold-water treatment is specially indicated in those cases with profoundly ataxic symptoms, though all the features in this state are not due to the pyrexia.

For diarrhœa, when excessive, aromatic sulphuric acid, bismuth, or naphthalin is ordered. For tympanites, turpentine stupes, turpentine internally, creasote, or naphthalin. Constipation is disregarded unless it persists longer than seven or eight days, when a saline purge or an enema is ordered. The severe headache of the early stage may demand leeches. Bromide or chloral will usually overcome the troublesome insomnia of certain cases.

When there are indications of heart failure, alcohol is given, and, if necessary, in large doses. Camphor, strychnine, and ergot supplement, but cannot replace, alcohol in this condition.

Should hemorrhage occur, opium is given and an ice-bag placed on the abdomen.

A return to ordinary diet is permitted ten or twelve days after convalescence is established.

JEFFERSON MEDICAL COLLEGE HOSPITAL.

DR. J. C. WILSON treats his cases of enteric fever by the systematic use of laxative doses of calomel during the first ten days, and by carbolized iodine, as originally suggested by Professor Bartholow, throughout the course of the disease. The most careful attention is given to the details of nursing, dietetics, and hygiene, and symptoms are treated as they become prominent.

Due regard being had to the peculiarities of individual cases, the general plan is as follows:

Upon the evening of admission the patient receives seven and a half to ten grains of calomel in combination with ten grains of sodium bicarbonate, at a single dose. If the case be still in the first week, which is not usual with hospital patients, this dose is repeated every second night until its third administration; if already in the second week, a single dose only is given. After the tenth day it is given cautiously or omitted altogether. If there be constipation, the first dose of calomel is followed by two or three large stools mostly of the consistency of mush, the later doses by stools decidedly liquid. Diarrhœa is not regarded as a contra-indication. On the contrary, it almost always becomes less troublesome after the action of the mercurial. During the subsequent course of the disease, constipation is not allowed to continue at any time beyond the third day; but is relieved, as a rule, by an eight ounce enema of warm, thin gruel, slowly injected, or exceptionally by a five, or seven and a half, grain dose of calomel; the choice being influenced by the character and prominence of abdominal symptoms. Under this plan of treatment diarrhœa is not commonly excessive. When necessary, it is treated by one grain suppositories of the aqueous extract of opium.

From the beginning the patient receives at intervals of two hours during the day, and three hours during the night, and immediately after the administration of nourishment, two or three drops of a mixture of two parts tincture of iodine and one part pure liquid carbolic acid. This dose is administered in an ounce of iced water.

Unless the temperature exceeds 104° F., the fever calls for no special treatment, beyond cold sponging, which is practised in every case at least twice in the twenty-four hours. A higher temperature receives prompt attention.

After trial of the list of new antipyretics, the choice is antipyrin. It is used in single doses of ten to fifteen grains, and repeated when the temperature again rises beyond 104° F. If this remedy fails of its effect, large compresses of several thicknesses extending across the chest and abdomen from the neck to the pubes, and freely wet with iced water, are used. The gradually cooled bath is held in reserve.

Alcohol has no necessary part in the routine treatment of enteric fever. Many cases do not require it; some are unquestionably benefited by it; while to a considerable proportion it is an absolute necessity. Dr. Wilson believes that the employment of alcohol in the treatment of fevers should be regarded not as a dietetic but invariably as a medicinal measure.

Space does not permit the discussion of the treatment of complications, nor of the management of convalescence. If perforation occurs during or after the period of defervescence, namely, in the fourth week or later, laparotomy should be performed.

MEDICAL PROGRESS.

CANCER OF THE LARYNX.—The Paris correspondent of the *Lancet* of November 26, 1887, writes that M. TILLAUX showed a patient at the Academy of Medicine upon whom he had performed tracheotomy five months ago for the relief of suffocation due to cancer of the larynx. Since then there has been, as is generally the case soon after an operation of the kind, a partial retrogression of the tumor, and the patient has resumed his occupation, having recovered his appetite, strength, and spirits, and gained seven pounds in weight. M. Tillaux said he made this communication because the question as to the best line of conduct in such cases is still open, as is shown by M. Schwartz in his thesis on the subject. Should a radical cure be attempted by extirpation of the larynx, or should the palliative operation of tracheotomy be adopted? M. Tillaux said that he thought the history of his case showed that tracheotomy was useful in some cases, and for his part he was not disinclined to prefer it, as a rule, to extirpation.

Professor Verneuil considered that the superiority of tracheotomy over extirpation was incontestable. With the latter operation, when the patient does not die from the immediate consequences, he speedily succumbs to a relapse. In one case of epithelioma, tracheotomized by M. Verneuil a year ago, the tumor was so considerable that it was difficult to understand how it was possible to breathe at all. After tracheotomy, or rather Krishaber's operation of laryngo-crico-tracheotomy, the patient resumed his ordinary business, and is even able to speak pretty distinctly when the opening of the canula is occluded.

M. Richet mentioned a similar case.

M. Labbé did not agree with his colleagues. He said that he had, like them, performed tracheotomy for the relief of laryngeal cancer, and should no doubt do so again. But he could not admit this to be the only operation possible, and that there are not cases in which we ought to practise extirpation of the larynx. As a rule, extirpation is done too late, upon subjects already tracheotomized, and for the relief of aggravated symptoms. It is reasonable to suppose that better results would be obtained if the operation were performed as soon as the cancerous nature of the growth is recognized, and before there is any secondary infection of the neighboring glands. The gravity of the operation is not so considerable as is generally supposed. In four cases of the kind M. Labbé had had three absolute operative successes, the patients living for different lengths of time without relapse. In the fourth case death was due to the accidental negligence of the nurse, who omitted to change the canula, as had been directed; in consequence the patient was nearly asphyxiated by the accumulated secretions, and died a fortnight later of septic pneumonia.

The thesis of M. Schwartz (*Thèse d'Agrégation*, 1886), the most impartial monograph upon extirpation of the larynx in the French language, necessarily serves as a

groundwork for all general reviews of this question, and the current number of the *Bulletin Médical* contains a good *résumé* of it by M. Maurice Hache, who brings the statistics of M. Schwartz up to date by the addition of recent cases. In 105 observations quoted of total extirpation of the larynx, death took place fifteen times within the first week from hemorrhage, collapse, embolism or septicæmia, or other causes; twenty times during the second week from pneumonia or bronchopneumonia. To these are added one case of death from pulmonary gangrene on the twenty-fifth day, five of late pneumonia, and two of exhaustion, making forty-three deaths in all from the operation itself, a mortality of forty per cent. Twenty-eight of the remaining relapsed, two before the expiration of three months, six others before six months, eight before a year, two between the first and second years, and two before two years and a half. Thirty-four patients are recorded as cured—fifteen after six months' observation, eight more after less than a year. One was published fifteen months; one, sixteen months; two, from two to three years; three, from three to four years; two, five years; and one, ten years after operation. Counting those as cured who have lived two years, there have been eight certain successes in 105 cases. Of twenty-seven published cases of partial extirpation, in one there had been no relapse after eighteen months, in another the cure was definite after seven years. Seven other operations had been successful, but the time elapsed at the date of publication was under a year and a half. From a functional point of view the condition of those who have been operated on is less unsatisfactory than might be supposed. Deglutition is restored sometimes within a week, nearly always after a couple of months; and by means of Gussenbauer's artificial larynx there is a very fair restoration of the voice.

IODOFORM IN VARIOLA.—COLLEVILLE has had excellent results in preventing severe scarring and lessening pain in variola by the local use of

Iodoform	1 part.
Vaseline	20 parts.

Although used freely in cases of confluent variola, no ill effects were observed.—*Revue de Thérapeutique*, November 15, 1887.

THE TECHNIQUE OF ANTIPYRINE HYPODERMATICALLY.—HIRSCH, of Hanover, has used a fifty per cent. solution of antipyrine by hypodermatic injection for pain with excellent results. He finds that the needle frequently clogs with crystals of antipyrine. He finds that five per cent. carbolic acid solution is the best dissolvent for these crystals. The carbolic solution should be drawn through the needle until it remains clear in the barrel, when no antipyrine is present. If antipyrine is present, a cloudiness will result from the union of carbolic acid and antipyrine.—*Berliner klinische Wochenschrift*, November 14, 1887.

CHLOROSIS AND RETENTION OF FECES AMONG GIRLS.—SIR ANDREW CLARK, in the *Lancet* of November 19, 1887, contends that the anæmia or chlorosis of girls arising in nervous constitutions with imperfectly developed sexual organs is caused for the most part, and in the first instance, by feculent retention and its consequences, and that the right as well as speedily successful treatment lies in the enforcement of a sound hygiene, the administration of ferruginous cathartics, and in the provision after cure for a daily and, as far as possible, a natural relief to the bowels.

His treatment of an ordinary case is as follows: On first waking in the morning, sip a quarter of a pint of cold water. On rising, take a tepid sponge bath; dry quickly, and follow with a brisk towelling. Clothe warmly and loosely; see that there is no constriction of the body or of the limbs. Have four simple but liberal meals daily, arranged after this fashion: Breakfast, eight to nine—whole-meal bread and butter, with one or two eggs, or some broiled fresh fish, or the wing of a cold chicken or pheasant, and toward the close of the meal half a pint of equal parts of milk and tea, not infused longer than five minutes. Lunch or dinner, one to two—fresh, tenderly dressed meat, bread, potato, well-boiled green vegetable, and any sort of simple farinaceous pudding or of cooked fruit, preferably apple; drink one glass of Burgundy alone or in half a tumblerful of water. Tea from four to five—whole-meal bread and butter, with a cup of equal parts of tea and milk. Dinner or supper, from seven to eight—this should resemble the mid-day meal, but should be less in quantity. Nothing is to be taken after this meal, nothing between meals, and nothing but what is here set down. Walk at least half an hour twice daily, and as much more as strength and convenience will permit. Retire to bed about ten, and repeat the sponging and towelling. See that your bedroom is cool and well ventilated. Lead a simple, regular, active, occupied, purposive life; and do not notice or distrust yourself.

With such instructions modified according to individual peculiarities, I prescribe an old-fashioned ferruginous cathartic. to be taken twice a day, about eleven and six. Usually it is an acid mixture, designed somewhat as follows:

℞.—Ferri sulphatis	gr. xxiv.
Magnes. sulph.	℥vj.
Acid. sulph. arom. . . .	℥j.
Tinct. zingiberis	℥ij.
Infus. gent. co. vel quassiæ .	℥viij.

Fiat mist.

Sig. One-sixth part twice daily, about eleven and six.

Occasionally this acid mixture produces sickness, dries the skin, and is otherwise ill borne. In such cases I prescribe an alkaline cathartic mixture.

℞.—Ferri. sulphat.	gr. xxiv.
Sodii bicarbonat.	℥ij.
Sodii sulphat.	℥vj.
Tinct. zingiberis	℥ij.
Spts. chlorofor.	℥j.
Inf. quassiæ	℥viij.

Fiat. mist.

Sig. One-sixth part twice daily, about eleven and six.

Sometimes neither mixture agrees, and then I prescribe sulphate of iron in pills with meals, and a saline aperient on first waking in the morning.

Upon the plan of treatment here described nine out of ten cases of this anæmia of girls recover their health in from one to three months; and if, when health is

quite restored, one prescribes once or twice a week an aloes, myrrh, and iron pill, in doses just sufficient to bring about a moderate natural action of the bowels, the recovery will prove in all probability permanent. But upon this statement some of my auditors will remark, "It is the iron which cures; it is not the aperient." That iron has much to do with the cure of the malady I admit, but I doubt if it plays the chief part; and I know that in numerous cases the use of iron, arsenic, and manganese unaccompanied by aperients has failed to cure. Furthermore, I have seen many patients who, having been treated in this manner unsuccessfully for months, speedily recovered their health under the influence of a ferruginous cathartic mixture and a regulated diet. And so clear and strong is the teaching of my experience upon the point under consideration that if in the treatment of this malady I were perforce limited to the employment of one sort of drug, the drug which I should choose for use would be an aperient.

ICHTHYOL IN RHEUMATISM.—DOUBELIR reports that in the military hospitals of Moscow ichthyol has been given in 8 cases of articular rheumatism, 6 of which were acute and 2 were chronic. The result was diminished pain, but continued swelling. The remedy may be given in pills or capsules containing one and a half to three grains each. Of these from six to twelve of the first and from three to six of the second may be given in twenty-four hours.—*L'Union Médicale*, November 5, 1887.

TO PREPARE SATURATED SOLUTIONS OF BORIC ACID.—CABANÈS has found the following formula useful in securing the solution of boric acid:

Acid. boric.	12 parts.
Magnesiæ calcin.	1 "
Aquæ destillat.	75 "

—*Journal de Médecine*, November 13, 1887.

A POST-MORTEM EXAMINATION OF A MORPHO-MANIAC.—At a recent meeting of the Paris Academy of Medicine, BALL reported an interesting case of morphomania, with fatal termination, from failure of respiration.

Post-mortem examination revealed the heart muscle pale, fatty; the aorta was narrowed at its origin. The nervous centres, kidneys, and liver were normal. Chemical examination demonstrated the presence of morphia in the nervous centres, the kidneys, spleen, and in largest quantities in the liver.—*Revue de Thérapeutique*, November 1, 1887.

ANTIPYRIN HYPODERMATICALLY, FOR PAIN.—FRÄNKEL, of Breslau, has used a fifty per cent. solution of antipyrin in distilled water, of which he commonly gave half an ordinary hypodermatic syringeful (three and three-quarters grains, of antipyrin). The dosage was increased three or four times this quantity with good results. A cutaneous surface, about two inches in diameter, was usually anæsthetized by the injection. He found an injection of three and three-quarters grains of antipyrin to equal about one-third of a grain of morphia, and in a comprehensive series of painful affections he obtained results which led him to consider antipyrin a positive anodyne. Two cases of severe pain from acute inflammation of the middle ear were benefited at once, and especially illustrated the value of the drug.—*Wiener medizinische Presse*, October 30, 1887.

AN APPARATUS FOR TESTING THE EYESIGHT OF CHILDREN.—DR. COHN, oculist at Breslau, has invented a new apparatus for testing the eyesight of children. This is a matter which is scarcely attended to at all in this country. Periodical tests have shown that there is much more small mischief in the eyes of young students than is generally supposed, which can easily be stopped if the necessary precautions are taken in time. Dr. Cohn's invention consists of a white board twenty-five centimetres square, to which are fastened six rows of hooks, shaped thus ⊏, one centimetre square. He who possesses a normal eyesight will be able to tell, at a distance of six metres, in ordinary daylight, in which direction—upward, downward, to the right, or to the left—the hooks, which are painted of different colors, are turned. Pupils who cannot do this injure their eyes by constantly looking at the blackboard. The same board may be used to determine whether the ordinary daylight is sufficient for the rooms. As soon as the teacher cannot distinguish the direction of the hooks at a distance of six metres without straining his eyes, the gas ought to be lighted at once.

THE TREATMENT OF CHRONIC LEG ULCERS WITHOUT REST.—BAUM, in the *Deutsche medicinische Wochenschrift*, No. 27, 1887, affirms that by adopting the following mode of treatment, ulcers of the leg may be cured while the patient follows his usual employment. First, the whole leg is most carefully washed with soap, shaved, and brushed with sulphuric ether. Then the ulcer is carefully disinfected with a three per cent. carbolic solution, applied by cloths dipped in it, which are kept on for half a day. The leg is then carefully dried and strapped, the strips crossing in front and overlapping at the edges. The plaster must be spread thickly on the linen; breadth of each strip, four to five centimetres (1½ to 2 inches). Above this strapping eight layers of carbolic gauze are laid, and fastened with a calico bandage.

Every second day the bandage is taken off, and the carbolic gauze, especially over the situation of the ulcer, is thoroughly sprayed with a twenty per cent. carbolic spirit, then a fresh bandage is applied.

This treatment is continued for four weeks. On removing the whole dressing, the ulcer is found, in most cases, completely healed up. If a small spot should still be open, a small similar dressing is put on for a fortnight.

SUPRAPUBIC PROSTATECTOMY.—At a recent meeting of the Clinical Society of London, MR. MCGILL read a paper on suprapubic prostatectomy, and related three cases where the operation had been successfully performed. The operation consists in opening the bladder above the pubes in the usual manner, and removing with scissors and forceps that portion of an enlarged prostate which prevents the outflow of urine. Case 1 had suffered from urinary symptoms for seven years,

and had not been able to pass urine without a catheter for seven months. Six calculi, weighing 174 grains, and a portion of the prostate as large as a walnut, were removed by suprapubic incision. The patient made a speedy recovery, and did not require to use a catheter. Case 2: Symptoms of prostatic enlargement for two years, acute symptoms for a fortnight, fetid urine, and frequent micturition. The patient was treated for three weeks by ordinary methods without benefit. The middle lobe of the prostate, the size of a bean, was removed with immediate benefit. He left the hospital on the twenty-seventh day with the wound healed, and passing urine without difficulty. Case 3: Prostatic symptoms for six years. Acute symptoms of greater or less severity for three years. On admission into hospital, the patient was found to be extremely ill. He vomited all his food, had constant diarrhœa, and passed putrid urine, which deposited one-third of its bulk of pus. On opening the bladder, the ureters were felt to be much dilated. The projecting portion—the enlarged prostate—was removed. He made a quick and satisfactory recovery, and was able to micturate without difficulty. The benefits derived from the operation are of two kinds: first, acute symptoms are relieved by the drainage of the bladder; and, second, the cause of these symptoms is removed by excision of a portion of the enlarged prostate. As yet the operation has only been practised in acute and urgent cases; it is not improbable that in the future it may be resorted to before any acute symptoms intervene.

MR. CHRISTOPHER HEATH spoke of the great advantage of the suprapubic drainage in cases of long-standing prostatic enlargement with its consequences. He considered Mr. McGill's action as a new departure. Some years ago Sir William Ferguson tried the removal of enlargements of the prostate by the perineal incision as in lithotomy, but the hopes raised by this method did not appear to have been fulfilled. Mr. McGill's mode of treatment may be said to have opened up a great field for enterprising surgery.—*Lancet*, November 19, 1887.

THE TREATMENT OF TUBERCULOSIS OF THE LARYNX BY CURETTING AND LACTIC ACID.—HERYNG reports, in *L'Abeille Médicale* of November 7, 1887, 36 cases of tubercular ulcers of the larynx, treated by this method, with 27 cures. The bacilli were found in the matter removed.

CARCINOMATOUS INFECTION.—At a recent meeting of the Berlin Medical Society, VON BERGMANN expressed his belief in the possibility of particles of carcinomatous matter causing local infection when transferred to favorable portions of the body. He instanced examples of carcinoma of the mouth and tongue which had been followed by carcinoma of the stomach and intestine. Also the direct transference of the contagion of carcinoma from the tongue to the adjacent tissue of the mouth has been noted.

HAHN reported an experiment he had made, in a patient suffering from disseminated carcinoma, in whom he had transplanted portions of three cancerous nodules. Growth and development of typical carcinoma followed.

VIRCHOW thought that the transplanted cancer may have grown with the hypertrophied and irritated integument, without a real infection from carcinoma having occurred.—*Deutsche medicinische Wochenschrift*, Nov. 10, 1887.

IODOFORM, DEODORIZED.—CANTRELLE, pharmacist at Paris, has found, of all the ways devised for hiding the odor of iodoform the following combination is the best:

Iodoform	gr. 15.
Menthol	gr. ¾.
Essence of lavender (of best quality)	gtt. 1.

In addition, the hands may be washed in water containing a little lavender brandy or essence. Cocaine may be added, when instant anæsthesia is required, as follows:

Iodoform	gr. 15.
Cocaine	gr. ⅜.

—*Bulletin Général de Thérapeutique*, Nov. 15, 1887.

THE CARDIAC APEX BEAT IN CHILDREN.—GUNDOBIN, of Moscow, has examined 300 children, to locate the apex beat. In 14 it was felt in the fourth intercostal space; in 60 between the fourth and fifth; in 220 in the fifth intercostal space, and in 6 cases in the sixth intercostal space. In 190 children it was in the mammary line; in 80 cases it was external to the line, and in 30 cases it was internal. Gundobin has found that the location of the apex beat with reference to the mammary line, is dependent upon the relation between the length, breadth, and depth of the thorax. In newborn children these measurements are of equal length, and in children two weeks old are eight centimetres (3.12 inches) in extent. As children grow the antero-posterior diameter increases less than the others. So long as the other diameters remain of equal length, the apex beat is always external to the mammary line. When the difference between the two diameters is one inch, the apex beat is on the mammary line; when the difference is one and three-quarters inches to two inches the apex beat is inside the mammary line. In children one year old the apex beat was external to the mammary line. In those two years old in 90 per cent. it was external; in children three years old it was external in 28.5 per cent.; between four and five years in 5 and 5½ per cent. In children from five to eight years old the apex beat was in the mammary line in 100 per cent. As age increased the apex beat was within the mammary line until at thirteen years 85 per cent. showed the heart's beat internal to the nipple line. In children of all ages the apex was external in 17.6 per cent., upon the line in 67.4 per cent., and internal in 15 per cent. Regarding the location of the nipple, in only 65 out of 100 children is it constant, when chest measurements are the same; the difference being from one-third to one-half an inch. The distance of the apex beat from the median line increases as the child grows older.—*Centralblatt für Kinderheilkunde*, No. 18, 1887.

THE TREATMENT OF SPINAL DISEASE BY CONTINUOUS EXTENSION IN THE HORIZONTAL POSTURE.—FLEMING, in the *Glasgow Medical Journal* for November, 1887, describes his method of treatment as follows:

The arrangement I now adopt consists of a strong

elastic cord six inches to a foot in length, one end of which is made fast to the top of the bed, and the other to the centre of a piece of wood rather longer than the greatest diameter of the head. The head stall—made after the pattern of the one used for suspension in Sayre's method, but of chamois or other soft leather, and rubber-tubing in place of side straps—is connected to the ends of this wooden yoke. A broad towel is tightly pinned or sewn round the pelvis, and to this, in the middle line behind, is firmly attached the end of a piece of strong calico bandage. The other end of this is tied, at about the level of the feet, to the cord passing over the common extension pulley at the end of the bed, and a weight, proportioned to the body weight of the patient, put on. The bed is covered with a macintosh sheet freely dusted with powdered boric acid, and the arrangement is complete. It will be seen that, while the whole spinal column is thus acted upon by the extensile force, the arms and legs are quite free, and the patient can turn round and lie on the back, face, or either side at will, without for a moment relaxing the extension. The object of the smooth vulcanized rubber sheet is to reduce the great friction between the body and the rough surface of the sheet, which it was found entailed a considerable increase of weight.

In the majority of cases in which pain has previously existed it is almost immediately relieved. The patient experiences a sense of comfort; sleep and general condition improve. In some cases—indeed, where attainable, probably in nearly all—the use of massage and electrical stimulation of muscles is advisable, and can be employed without even momentary interference with the extension. In many cases it is advisable, after the cessation of all symptoms under this treatment, to make the patient for some time wear a poro-plastic or other jacket, or, in cases of disease of the upper part of the spine, my pneumatic collar or Hillard's pelvic jury-mast.

GUAIACAL.—This substance is the active principle of creasote, and is used by SAHLI in tuberculosis, as follows:

℞.—Guaiacali . . . . gr. 25 to gr. 30.
Aquæ . . . . ʒ 45.
Spirit. vini. . . . ʒ 5.—M.
To be put in darkened bottles.

Sig.—Teaspoonful to dessertspoonful two or three times daily.—*Correspondenzblatt f. Schweizer Aerzte*, Nov. 20, 1887.

AN ARTIFICIAL ATMOSPHERE FOR PHTHISIS.—Doubtless a perfect atmosphere for cases of chest disease, and especially phthisis, must remain for a long period a utopian idea. The subject of an artificial atmosphere was raised recently at the Biological Society of Paris by M. d'Arsonval, who described several apparatus constructed by him for permitting patients, and especially phthisical ones, to respire an artificial atmosphere, and he showed a means by which the inspired air should be uncontaminated by the fluid in the expired air. Dr. Brown-Séquard, in the discussion thereon, said it would be very important to settle this point in the hygienic treatment of *poitrinaires* and others. He has tried to employ an atmosphere containing a rather larger percentage of oxygen than the normal of ordinary air; but he found that when the oxygen was in too great a quantity, irritation resulted, causing considerable distress, even when the carbonic acid eliminated remained normal. If, nevertheless, a mixture in determined proportions of carbonic acid and oxygen be made in an artificial atmosphere, these phenomena of intolerance are no longer produced. It is known that carbonic acid, besides its anæsthetic property, exercises a cicatrizing effect on wounds. It is possible to comprehend how, in cases of tuberculosis, a diminution of reflex sensibility, and consequently a lessening of cough, may be afforded, whilst at the same time the pulmonary lesions may be favorably influenced, by carbonic acid.—*Lancet*, November 19, 1887.

TUBERCULOUS ERUPTIONS.—At a recent meeting of the Berlin Medical Society, BAGINSKY reported two cases of general tuberculosis in which, in addition to the ordinary lesions of pulmonary tubercle, well-marked local tuberculous eruptions appeared on the velum palati, on the gums, and on the tonsils. The secretion when examined revealed the bacilli of tubercle in abundance.—*Deutsche medicinische Wochenschrift*, Nov. 10, 1887.

THE TREATMENT OF SCIATICA BY MASSAGE.—In the *Practitioner* for November, 1887, DR. ECCLES reports good results in cases of the most severe type, being characterized by the acuteness of the local suffering and the severity of the constitutional disturbance attending it. Of the six cases referred to as of a doubtful nature it is only necessary to note that they occurred in subjects of a distinctly anæmic type, the sciatic affection apparently being a concomitant of the general ill-nourished condition rather than its primary cause.

In these cases general corporeal massage was systematically performed, with frequent meals at regular intervals, consisting chiefly of milk, butcher's meat, and farinaceous puddings. Rest and the avoidance of all pressure upon the nerve trunk was strictly maintained for periods varying from four to ten weeks, with the result that not only was the sciatic pain removed, but the patients all improved in respect to their weight, appetite, and physical strength.

In the five cases in which neuralgia of the sciatic, supraorbital, facial, and temporal nerves was the most prominent feature, pain being complained of in one or other of these situations at intervals, sometimes in the sciatic nerve and the face on the same side coincidently, the treatment employed was in all respects identical with that previously described in referring to the neuritic cases; but the progress of the patients was not so steady as in the two foregoing classes, nor was the result so satisfactory in two cases, as the patients have since suffered severely from "neuralgia," which has not yielded to remedies except temporarily.

In one case, it is true, the effects of the treatment appear to have been so far permanent that for nearly twelve months the patient has enjoyed immunity from pain; but this must be attributed, perhaps, as much to the improved circumstances of her life as to the fact that while under treatment she decidedly gained weight and the power to sleep; which she had lost for some months previous to coming under treatment.

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THE CROWN PRINCE'S CASE.

THE late reports concerning the distinguished sufferer at San Remo inform us that his condition has undergone considerable change for the better, so that there is no question at present of any operative interference; the acute symptoms pointing toward prospective tracheotomy having subsided, and his general health remaining excellent.

If the disease in the larynx of the Crown Prince of Prussia be carcinoma, the clinical course has been different from what is usual in that disease. It was only at the end of several months of close and continuous observation that a fresh projection was detected, half an inch below the original site of disease, which had meanwhile become cured. This projection, too, as far as the meagre descriptions indicate, may have been simply due to an abscess from perichondritis of the arytenoid cartilage at its base, the rupture of which could well be followed by the remarkable relief reported—relief which could hardly be expected to follow the supposed ulceration of soft carcinoma. The irregular outline of intralaryngeal abscess closely resembles the irregular outline of small, diffuse carcinoma.

In the *Berliner klinische Wochenschrift* of November 21, is published an official communication from Prof. Virchow to the Berliner medicinischen Gesellschaft, of which he is president, in which he repudiates all responsibility for the assertion that the Crown Prince's disease is not malignant, or for the plan of treatment adopted in consequence of his failure to find any evidence of malignancy in the fragments submitted to his inspection. It was to these fragments alone that his opinion was applicable, and not to the entire seat of the disease, of the conditions of which he had remained in ignorance. He refers to a statement in Morell Mackenzie's own monograph upon "Growths on the Larynx," 1871, that the microscope cannot be relied on for differential diagnosis, several cases having come under his notice where the histological features were decidedly those of cancer, while the clinical history was of a totally opposite character, and *vice versa*.

Virchow has been personally informed by Dr. Schmidt that the left vocal cord is at present in no way involved in the disease; the tissues submitted to operative procedure having healed without recurrence of morbid growth. Therefore, it cannot be taken for granted that the fragments examined were fragments of the carcinoma, even should the disease be cancer. In several collections of preparations of laryngeal carcinoma Virchow has observed none which showed entirely independent warty formations along with the cancer. In conclusion he declares that he has afforded no occasion for delay in the discovery of the other diseased portion of his Highness's larynx, which now appears to be under treatment; and he states that as months elapsed without hearing of any other diseased place than the one submitted to operation, the belief might well have been entertained that there was no other disease present, and that the prognosis was far more favorable than has unfortunately proven to be the case.

Reading between the lines we should say that, from the reports which have reached him, Virchow considers the case to be carcinomatous, notwithstanding the absence of corroborative histological evidence in the fragments of tissue which he has examined.

The present diagnosis of malignancy appears to be based on the physical appearance of the diseased portion of the larynx, without any support derived from examination of fragments, or any attempt to remove portions for that purpose. While the great probability is that the distinguished laryngologists, English and German, are correct in their opinion as to the cancerous nature of the disease, the clinical features cabled from time to time do not yet exclude a certain amount of doubt as to the accuracy of their diagnosis.

Carcinoma of the larynx usually presents as a supraglottic mass which extends downward; rarely as an infraglottic mass extending upward. When unilateral it begins usually in the vicinity of the ventricular band, extraventricularly or intraventricularly, or upon the vocal band. In the case under notice the disease in the vocal band has been cured without recurrence, and has been pronounced not to be malignant. Had it been in continuity with the present seat of the diseased portion of the larynx that fact would have been elicited gradually, and not by the sudden announcement of a swelling,

the evolution of which belongs rather to the clinical history of abscess of the larynx than to that of malignant growth. This circumstance and the site of the new manifestation lead us to hope that, after all, the alarm will prove to have been uncalled for, and that the Fatherland may still have a fair chance to be governed by the Prince it loves so well.

GALL-STONES AND PERNICIOUS ANÆMIA.

IN the *Berliner klinische Wochenschrift*, Nos. 44 and 45, GEORGI relates an interesting case of profound anæmia, which he tries to connect etiologically with the presence of a large number of calculi in the gall-bladder. The patient, a man aged thirty-six, had all the symptoms of advanced anæmia, with retention of subcutaneous fat and a light icteric hue of the skin. The blood changes were most marked; hemorrhage occurred from the bowels; there was a slight fever, and the case ran a rapidly fatal course. There were found, post mortem, fatty degeneration of the organs, a lymphoid state of the marrow, an increase in the amount of iron in the blood-making organs, and 175 calculi in the gall-bladder. The liver was fatty and bile-stained; the ducts not dilated. He had never suffered from gall-stone colic, but at times during the illness the stools were clay colored.

It is suggested that the small gall-stones in passing the common duct produced more or less obstruction and retention of bile, and an elaborate and lengthy account is given of the destructive influence of the bile acids upon the blood corpuscles, to which, in this instance, the anæmia is attributed. In support of this view the author has collected from the literature eight cases of pernicious anæmia associated with icterus. PROFESSOR EWALD, the editor of the journal, adds the report of a case of fatal anæmia with jaundice, but without any involvement of the liver or its ducts; and, as opposing Georgi's view, refers to the cases of chronic obstruction to the ducts, which may persist for months or years without inducing profound anæmia. The light lemon-colored tint of skin in pernicious anæmia is really—just as in malaria—a mild hæmatogenous jaundice, due to the dissolution of red corpuscles with diffusion and imbibition of the coloring matter. It is of various shades of intensity, and to this cause rather than any actual obstruction, the evidence for which is very doubtful, we should be inclined to attribute the light jaundice in the case under consideration.

THE FIRST FIFTY SÄNGER-CÆSAREAN OPERATIONS OF CONTINENTAL EUROPE.

WE promised several months ago to report the results of the first fifty cases, taken chronologically, so soon as we could feel satisfied that we were in the possession of them. It now appears that the list was completed in March, 1887, and that the success of the operation was fully up to our anticipations. To have saved forty women out of fifty, with forty-eight of their children, is certainly a great triumph in obstetric surgery, and must be a source of gratification to Dr. Sänger and those who have carried out his ideas of multiple seroso-serous suturing of the uterine wound.

Of the first twenty-five women operated upon, nineteen were saved, and of the second twenty-five, twenty-one. Engaged in the fifty operations were thirty-one distinct operators belonging to Germany, Austria, France, Italy, Russia, Poland, and Switzerland. Since the completion of the first fifty, there have been quite a number of operations, and the successful proportion is being still kept up. Prior to 1887, the Sänger cases of the United States were all fatal, because operated upon *in extremis*; but during this year there have been, in all, three of this class of operations, two of them in hospital, saving all of the women and two of their children, the third child being delivered moribund, after an active labor of four days. In this case a wide resection of the muscular coat, including a small fibroid, was made; and because of the existence of numerous other fibroids the ovaries were removed to establish the menopause. The woman was also rachitic, and had a badly deformed pelvis; still, the multiple suturing saved her.

We hope to see the Cæsarean operation in the United States differently conducted in the future, and women subjected to the knife in good season, so as to save both child and mother. The failures in the first five operations under the Sänger method in the United States we hope have taught a good lesson. The fact is established, that to be successful it should take precedence of the forceps, turning, and craniotomy, trials of which, only waste valuable time and add to the risk of the knife. No hospital Cæsarean case was ever saved in the United States, until it was done in case 10th, under the Sänger method, tried as soon as possible after the commencement of labor. Hospital operation 11 being also elective and promptly performed, was equally successful, although the woman was much broken in health from cancer of the cervix. The first fifty Porro-Cæsarean operations of Continental Europe, in chronological order, saved twenty-one women and forty-one children. We have not seen any report as yet of a Sänger operation having been performed in Great Britain. As but twenty-nine women have been saved in that country under one hundred and fifty old Cæsarean operations, we may be permitted to suggest that it might be well to give the plan a trial, in view of what has been accomplished under it in German hospitals, and very recently in New York and Baltimore under Professors William T. Lusk and John G. Jay, respectively.

We look for an entire change in our own country,

in the manner of conducting cases of very difficult labor. Take away the fear of the consequences of the Cæsarean operation, and midwives as well as accoucheurs will look to it, not as a last resort, but as a means of delivery, to be considered promptly, where the measure of pelvic obstruction renders the extraction of an unmutilated fœtus impossible, except under the knife, and through an abdominal incision. We believe that the Sänger operation promptly conducted is less dangerous to the woman than craniotomy, where the true conjugate of the pelvis is reduced to 2½ inches.

LAPAROTOMY IN RUPTURE OF THE BLADDER.

IN the current number of THE MEDICAL NEWS may be found a report of laparotomy for intraperitoneal rupture of the bladder, which, although it terminated fatally, illustrates what, in our opinion, is the proper mode of procedure in similar cases. Had the operation been practised soon after the occurrence of the accident, it is highly probable that the result would have been favorable. Be this as it may, laparotomy, with suture of the rent, in cases of intraperitoneal laceration, is the only treatment that holds forth the slightest prospect of success, and should be resorted to as soon as the diagnosis is made, although our text-books generally do not recommend such a course.

We quite agree with Dr. Fox that catgut is not a safe material for suturing the bladder; and we believe that interrupted catgut sutures are also unfitted for closing the edges of the abdominal incision. In similar cases we would advise that the peritoneum be approximated with the continued catgut suture, and the superficial wound with the continued silk suture.

THE INFLUENCE OF ALCOHOL ON THE ACTION OF PEPSIN.

THIS subject is so time-worn and threadbare that it seems scarcely worth while to bring it before our readers once more, and, but for an exhaustive article in *Les Nouveaux Remèdes* of October 24, 1887, we should not do so.

The experiments described, while interesting from a general point of view, are absolutely worthless so far as any practical value is concerned, for experiments on digestion in the test-tube can never be relied upon as a basis from which to draw conclusions as to the influence of *pure alcohol* in the stomach. We have already pointed out that while, chemically, alcohol retards the action of pepsin, physiologically it so irritates and stimulates the gastric mucous membrane as to cause a large flow of gastric juice, which is capable of overcoming any influence it might exert for the moment on the small amount of pepsin present in the stomach.

The results reached in the article quoted are in direct agreement with all other like series of experiments, and could not well be otherwise, if correctly performed, so many uniform results having been reached already by other observers. As we have heard a well-known therapeutist remark, "They told me that alcohol retards digestion in the test-tube, but I have always objected to having my stomach compared to a piece of glassware."

DR. CHARLES T. PARKES, formerly Professor of Anatomy in Rush Medical College, Chicago, succeeds the late Professor Gunn in the chair of surgery in the same institution.

THE Philadelphia Board of Health has fined a physician $100 for not reporting to the Board two cases of leprosy under his charge, in accordance with the law requiring the reporting of contagious diseases to the Board.

A SPANISH translation, by Professor Ramor de la Sota y Lastra, of Dr. J. Solis Cohen's monograph on "Croup in its Relations to Tracheotomy," has just been published at Seville.

IN the *British Medical Journal* of November 5, is a timely editorial on woollen winter underclothing. The *Journal* regrets that underwear made upon the Continent, and especially in Germany, has, "by dint of diligent puffing," obtained a position of apparent superiority that is not deserved. It calls attention, among others, to the all-wool clothing of the Donegal Industrial Fund, made in Ireland, and asserts its superiority on hygienic grounds and on artistic merit and durability over the imported hosiery, and urges upon physicians to help to dissipate the absurd claims made for some Continental manufactures of woollen wear that are now finding their way to these shores.

DR. THOMAS L. JANEWAY, of New Brunswick, New Jersey, died November 28, at Eureka Springs, Arkansas, aged forty-three years. He graduated from Rutgers College in 1863, and from the College of Physicians and Surgeons, New York, in 1867. After graduating he took up his residence for some time in Germany, continuing his medical studies, and part of the time acted as surgeon in the German army. In 1877 he returned to New Brunswick and entered upon medical practice. Latterly his health has been infirm from Bright's disease, and at the time of his decease he was on his way, accompanied by members of his family, to California to spend the winter for the benefit of his health. The deceased came of a family of great worth and intelligence, and eminent in theology as well as in medicine.

ACCORDING to a press cablegram Dr. Sommerbrodt, the eminent laryngologist, of the Breslau University, lectured last Tuesday on the case of the Crown Prince. He stated that he was inclined to the conclusion that it is a case of simple perichondritis, with an abscess formation, and not of a cancerous nature. He thought that some difficulty is likely to be presented in the extrusion of several pieces of dead cartilage. He considered that the prospects of the Prince's recovery are hopeful.

REVIEWS.

IMPOTENCE, STERILITY, AND ALLIED DISORDERS OF THE MALE SEXUAL ORGANS. By SAMUEL W. GROSS, A.M., M.D., LL. D., Author of a Practical Treatise on Tumors of the Mammary Gland. Third Edition. 8vo. pp. 172. Philadelphia: Lea Brothers & Co., 1887.

As Professor of the Principles of Surgery and of Clinical Surgery in the Jefferson Medical College, the utterances of Dr. Gross are entitled to most respectful attention, and that the value of this practical treatise has been appreciated by the profession, is proved by the speedy call for a new edition of it. With the decision borne of experience, Professor Gross lays down rules of practice which are reliable, and based not only upon experimental knowledge, but upon the observation and judgment of others. Working in a field which has been but casually explored by others, the author of this practical treatise has produced a compend containing pretty much all that the present state of our knowledge enables us to state confidently. The expression of the opinion that the fault in unfruitful marriages lies with the husband in one case out of every six, will be a surprise to many, and the application of the rule should save many women from serious and needless operations. What effect it may have in promoting the happiness of such unions, where the condition is irremediable, must remain a problem for future solution. The book has the commendation of the profession, and needs none from us.

VISITING LISTS.

THE MEDICAL NEWS VISITING LIST, 1888. Philadelphia: Lea Brothers & Co.

THE PHYSICIAN'S VISITING LIST FOR 1888. Philadelphia: P. Blakiston, Son & Co.

ALTHOUGH the first of these Lists has been before the profession but a few years, it has won favor which demonstrates its adaptation to the wants of the practitioner. In its present revised edition it contains the data indispensable in diagnosis and treatment, and as a specimen of the bookmaker's art is handsome and durable.

The alterations embodied in the List for 1888 bring it fully up to our practical knowledge in therapeutics, the new remedies introduced being those which have proved of value. The illustrations, tables of the metric system and various clinical memoranda furnish the physician extensive information in the most convenient form. The arrangement of the different editions cannot fail to satisfy the most varied practice, and the Visiting List will prove itself a welcome and useful companion.

The well-known Blakiston Visiting List is somewhat different in plan and finish from the previous. The articles likely to prove of most value are the review of new drugs, which is fully up to date, and the memoranda for the examination of urine. The selection of new material has been judicious, and the physician will find the requisite data for ordinary medical practice at his disposal in this convenient-sized pocket volume.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 1, 1887.

THE PRESIDENT, A. JACOBI, M.D., IN THE CHAIR.

DR. J. W, STICKLER, of Orange, New Jersey, read a paper on

FOOT AND MOUTH DISEASE AS IT AFFECTS MAN AND ANIMALS, AND ITS RELATIONS TO HUMAN SCARLATINA AS A PROPHYLACTIC.

He said that he had two reasons in presenting the present paper; first, because it gives the result of investigations which he had been making during the past four years; and, second, because it points out the way in which such results may be turned to practical account. It has long ago been shown beyond question that foot and mouth disease may be communicated to the human subject in either of two ways: (1) through the agency of milk from affected animals, and (2) by the accidental introduction of virus into open wounds.

Having referred to the general symptoms of the disease as it occurrs in animals, he mentioned those which it presents in man; stating that it is characterized by glandular enlargements, vesicles in the mouth and upon the hands and feet, and, in some cases, by a scarlatinal eruption in different parts of the body. This was the case with Hartwig and others who purposely contracted this disease by drinking milk from infected animals. Instances of this kind varied somewhat from those in which the affection was caused by virus introduced into the system in other ways.

Dr. Stickler then gave some account of the sudden and severe epidemic of sore throat which occurred in Dover, England, in 1884, and attacked the inmates of the best houses in the place, and said that it was conclusively proved that the outbreak originated from milk obtained from cows suffering from foot and mouth disease. In the majority of the cases the two principal symptoms were inflammatory sore throat and enlarged cervical glands; while in many instances vesicles were also noted. The sequelæ in general resembled those of scarlet fever. An investigation of 182 of the cases made at the end of two years after the outbreak showed the following points:

(1) None of the patients had since had scarlet fever.

(2) Members of families who had previously had scarlatina, as a rule, escaped the epidemic, while those who had not had scarlatina were generally attacked.

(3) Sixteen of the patients had already had scarlatina.

(4) Four of these were very mild cases.

(5) Two of these had had scarlatina when very young.

(6) In ten cases it was doubtful whether the patients had had scarlatina or not.

He then related the histories of those cases in which he inoculated children with virus from milch cows and subsequently exposed them to the contagion of scarlet fever. The first was a child, eight years of age, who, after it had entirely recovered from the effects of the inoculation, was taken to the room of a scarlet fever patient and made to inhale the breath of the latter and place its head upon the pillow used by him. Yet, notwithstanding this exposure, the child did not develop scarlet fever. The second was a child, four years of age, in whom the inoculation produced much greater constitutional disturbance than in the previous case. The throat and mouth became sore, the temperature went up to 103°, and there was a scarlatinal eruption followed by desquamation of the cuticle. This child was afterward directly exposed to the contagion of scarlet fever in the same way, and did not contract the disease. The third child inoculated was ten years old, and though during the three years since the inoculation was made abundant opportunities for infection have been met with, up to the present time he has escaped scarlet fever. Dr. Stickler said he was well aware, however, that at this stage of the investigations now being made no positive conclusions could be arrived at.

While foot and mouth disease is essentially the same in man as in animals, there are some differences, and he now proceeded to describe in detail the symptoms met with in the latter. There are four marked stages in its history in animals; viz., (1) fever, (2) eruption, (3) desiccation, and (4) desquamation. In milch cows the flow of milk becomes merely suppressed, while the milk is of a yellow color and readily coagulates when boiled or exposed to slightly elevated temperature. There are vesicles in the mouth and throat, and unhealthy ulcers and erosions are sometimes left. Thomas had stated that scarlet fever is the only disease in which the mucous membrane will tear away, but he was probably not aware that this is also the case in foot and mouth disease. Repeated attacks of the affection in the same subject are supposed to be rare, but authorities differ very greatly in regard to this point.

Klein had claimed to have discovered the germ of foot and mouth disease, and said that it could not be distinguished from the germ of the disease caused by milk, which occurred at Hendon, and was unquestionably scarlet fever. In order to test the transmissibility of scarlet fever to the lower animals, Dr. Stickler inoculated two colts by injecting virus into the jugular veins and also giving them mucus from the mouths and throats of scarlet fever patients to swallow. In one colt the temperature went up to 103½° and in both there were sore throat, redness of the mucous membrane, cough, and difficulty of deglutition. In one of the cases there also resulted desquamation. Having repeated these experiments in a considerable number of other animals, he was convinced that it is possible to inoculate the lower animals with scarlatina.

In inoculating human beings with virus from animals the lesion was found to be a mild one, and he believed that this virus could be used in such a way as to prevent scarlet fever. Four years ago he had inoculated twelve cases with good results. Out of thirteen other children, who were already exposed to the infection of scarlet fever, five escaped the disease entirely, while eight were attacked with it. None of the cases, however, were severe, and the question arose whether the severity of the disease was not mitigated by the inoculation. During the last year he had inoculated two children. In conclusion, he said that while it was by no means proven that scarlatina could be prevented by such inoculations, the results thus far obtained were very suggestive, and he hoped to pursue the investigations in which he was engaged still further.

DR. ANDREW H. SMITH said that the author of the paper had certainly made out a very excellent case for the efficacy of inoculations against scarlet fever. He would like to inquire whether it was an easy matter to procure virus, so that the supply could be kept up in case the method came into general requisition.

DR. STICKLER replied that the foot and mouth disease is extremely common in Europe. In this country, however, it is very rare. There had been an outbreak of it in Maine about two years ago, and he had also been told that it had occurred in the West. The disease which affected the cows at Hendon was not so frequent. This he believed to have been genuine scarlatina, and he had no doubt that milch cows could be readily inoculated with the virus of scarlatina derived from the human subject.

DR. ANDREW H. SMITH said that he found that if the virus, derived from cows inoculated in the manner suggested by Dr. Stickler, were employed, the children thus treated would be subject to all the dangers of the unmodified disease, as was the case in smallpox when the latter was transmitted from person to person by inoculation.

DR. FINLEY said that he had seen a great deal of foot and mouth disease in Scotland. It is regarded as an epizootic aphtha, and one attack of it confers no immunity whatever from subsequent attacks, as he had known cattle to suffer again from the disease within six months after having had it, and it is exceedingly common for the same animals to have it more than once. In the case of sheep, however, it really seemed that one attack was protection against subsequent ones, as he did not remember ever to have seen a recurrence of the disease in an animal of the bovine tribe.

PROFESSOR LAW, of Cornell University, said, that as regards the prophylactic form of foot and mouth disease in relation to scarlet fever in the human subject, he had to confess that he was still a sceptic. In Great Britain there are frequent outbreaks of the disease, which affect not only the cattle, but the people coming in contact with the latter, and he thought that if foot and mouth disease prevented scarlatina, scarlatina ought to be a much less common disease there than in this country, where epizootic aphtha is almost unknown. Such is not the case, however, as the statistics show that during the last five years ninety thousand deaths were due to scarlatina in Great Britain. Then, again, an attack of foot and mouth disease in cattle confers a very limited, if any, immunity from subsequent attacks, and, like Dr. Finley, he had known it to recur within six months in the same animal. Recurrence of the disease is very common in his experience, and, therefore, he would hardly suppose that inoculation with it would confer immunity from scarlatina for any length

of time, if at all. While it is a very contagious disease when there is direct exposure to it, he believed that it differs from scarlatina as to its contagiousness under other circumstances. His own personal experience also tended to throw doubt upon Dr. Stickler's hypothesis. While he had been over and over again exposed to any amount of morbid products from cases of foot and mouth disease, he had never suffered from the affection; but the very first time that he was exposed to the infection of scarlatina he contracted that disease. His system had been susceptible to the one, but not to the other.

These points, therefore, seemed to militate against the protectiveness of one disease against the other. Still, it did not follow that the immunity conferred by foot and mouth disease might not be more extended in a race less susceptible to its influence than the bovine. As regards foot and mouth disease, he would strongly suggest that the investigation into its prophylactic power should be carried on on the other side of the Atlantic, as it would be a very serious matter if the disease should be introduced among American cattle; and he had no doubt that there would be a general outcry among the cattlemen if it were known that experiments were being made with the virus of the disease in this country.

Again, if we employ the virus of scarlatina for making inoculations, do we not more widely disseminate the disease? While he had great respect for the ability and achievements of Pasteur, he could not but believe that he had increased the spread of anthrax by scattering broadcast his modified anthrax virus, for he was convinced that a matured virus could, under certain conditions, be rendered potent and dangerous. In the same way he feared that rabies would only be increased by the dissemination of his attenuated virus of that disease, and he said that he believed it to be a fact that there had been more rabies among dogs in England since the discovery of Pasteur than ever before. These considerations, in his opinion, condemned the method, and he thought that the living germ of the same disease should never be used for inoculations, on account of the danger of spreading the affection involved.

DR. MCLEAN said that he did not doubt that the Hendon epidemic was one of true scarlatina, but it was not proved that the scarlatina came from the cows. He denied that there is such a disease as bovine scarlatina, except, possibly, in cases where the disease is transmitted directly from the human subject by inoculation. In the Hendon outbreak the disease may have been conveyed by the milk, but if this was the case, it did not come originally from the cows. The milk was no doubt contaminated from other sources, as has frequently been noticed in epidemics of typhoid fever and other affections, and it is well known how excellent a medium milk is for the conveyance of infectious diseases. Again, he did not think it susceptible of proof that foot and mouth disease is prophylactic of scarlatina, as he believed this to be a specific disease, the germ of which is capable of giving rise to epizootic aphtha, and to nothing else. So far as he was aware, there had been but two outbreaks of foot and mouth disease in this country—one in Maine and the other in the vicinity of New York City, extending up the Hudson as far as Poughkeepsie.

DR. JOHN C. PETERS said that a great many of the most distinguished veterinary authorities believed in the occurrence of scarlatina in horses and cattle.

DR. J. LEWIS SMITH said that since the time of Jenner the hope has been awakened that some of the other infectious diseases, and especially scarlet fever, might be prevented, as smallpox has been, by the substitution of a milder and modified disease derived from the lower animals. As regards scarlet fever, two propositions of great interest and importance have arisen. First, is there a disease in the bovine race, which is true scarlet fever, or which communicates genuine scarlet fever to man? and secondly, if there be such a disease, does it communicate a modified and mild form of scarlet fever to man? Many instances have been recorded in the last five or six years, in which epidemics of scarlet fever have arisen from the use of milk furnished by healthy cows, and infected with the scarlatinous germ after the milking, but in the St. Marylebone and Hendon epidemic, occurring two years ago, and described in the *British Medical Journal*, May 29, 1886, the outbreak of scarlet fever appeared to be clearly traced to diseased cows. Now the point he wished to call attention to is this: The sickness of the cows was mild, not appreciably impairing their appetite, nor diminishing their milk, but the disease, which the use of the infected milk produced, is described as an "intense outbreak of scarlet fever." Instead of a mild disease being propagated from the cow, for which we were looking and hoping, the reverse occurred. A mild form of the disease in the cow produced a severe one in man, so that, if we inoculate with the bovine scarlatinous virus, may we not produce severe and fatal epidemics?

PROFESSOR LAW said that, unfortunately, veterinarians had given the name scarlatina to an affection in which there was redness of the mouth, but which was non-contagious and totally distinct in character from true scarlet fever. The name had necessarily given rise to much confusion.

DR. STICKLER, in closing, said that if he produced only a slight and harmless attack of scarlatina by his inoculations, he could see no objection to the use of the scarlatinal virus; and when the terrible effects of the unmodified disease are considered, he thought it of extreme importance that a method of protection should be secured, if possible. As to the disease from which the Hendon cows suffered, it had, he thought, been positively demonstrated that it was nothing else than scarlatina, since it was precisely the same affection as was ordinarily produced in cows by the inoculation of scarlatinal virus from the human subject.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Stated Meeting, November 23, 1887.

THE PRESIDENT, J. SOLIS COHEN, M.D., IN THE CHAIR.

DR. CHARLES B. PENROSE read a paper on

ELEVEN CONSECUTIVE CASES OF ABDOMINAL SECTION FOR DISEASE OF THE UTERINE APPENDAGES.

Abdominal section is at present such a common operation, and the diseases for which it is performed are so well recognized, that I shall not report these cases in detail; I shall simply tabulate them, consider them col-

lectively, and call attention to any special point of interest which may have occurred in the history of any case.

Case.	Age.	Married or single	Disease.	Date of operation (1887).	Parts removed.	Complete closure of wound, or drainage.	Result.
I.	30	Married.	Salpingitis and cirrhotic ovaries.	Feb. 16,	Both tubes and ovaries.	No drainage.	Recovery.
II.	24	"	Pyosalpinx and cystic ovaries.	Mar. 14,	Right tube and ovary.	" "	"
III.	32	"	Salpingitis, multilocular cyst of ovary.	April 8,	Left tube and ovary.	" "	"
IV.	26	"	Double pyosalpinx and ovarian abscess.	May 19,	Both tubes and ovaries.	Drainage.	"
V.	37	"	Double pyosalpinx, ovarian abscess, and hematocele.	May 25,	" " " "	"	"
VI.	30	"	Salpingitis and blood cyst of ovary.	June 20,	Left tube and ovary.	No drainage.	"
VII.	23	"	Salpingitis and abscess of ovary.	July 3,	" " " "	" "	"
VIII.	33	"	Salpingitis, blood cyst of ovary, uterine fibroid.	July 13,	Both tubes and ovaries.	Drainage.	"
IX.	22	"	Double pyosalpinx.	Aug. 9,	" " " "	"	"
X.	43	"	Dermoid cyst of ovary.	Aug. 17,	Left tube and ovary.	"	"
XI.	22	"	Double pyosalpinx.	Oct. 23,	Both tubes and right ovary.	"	"

These cases were operated upon during the year 1887. They all recovered, and are at present well and able to attend to their various duties. In five of the cases the appendages were removed on only one side. In one of these cases (Case II., pyosalpinx and cystic ovaries) he found it impossible to remove the left tube and ovary. They were firmly adherent in a knot on the side of the uterus, and the uterus was bound down in the hollow of the sacrum. In the other cases of unilateral removal he intentionally left the appendages upon one side. With the exception of the case of dermoid cyst, the women were young, and desirous of having children; and at the time of operation he could discover no sign of any pathological condition in either the tube or ovary. He is aware of the fact that in cases of tubal disease it is often unwise to perform a unilateral operation and to leave even an apparently healthy tube, as it may, in many cases, become subsequently diseased from an infecting focus in the uterus. Though sufficient length of time has not yet elapsed to come to any definite conclusion with regard to his cases, yet so far he has had no cause to regret having left the sound tubes; and in one case the patient has become pregnant since the operation.

A point of interest in connection with the first case (salpingitis and cirrhotic ovaries) is the length of time during which the patient was fed by the rectum. She began to vomit as she recovered from the influence of the ether; and she continued to vomit everything which was administered by the mouth for thirty-six days after the operation. There was no apparent cause for this excessive vomiting. The operation was simple, and was not followed by any obvious symptoms of peritonitis. The rectal injections, by means of which this woman was nourished for over a month, consisted of pancreatized milk, eggs, and whiskey. Two-thirds of a quart of milk, one egg, and three ounces of whiskey were administered in four or five doses during the twenty-four hours. During this prolonged course of rectal feeding she lost many pounds in weight. No food at all was taken by the mouth; the very small quantities which were occasionally administered experimentally were always immediately rejected. When she finally became able to take food by the mouth it was necessary to give it in the form of twenty-drop doses of soup or beef-tea.

In investigating the histories of the cases of pyosalpinx, it was difficult to determine with any certainty the origin of the trouble. He could not in any case obtain a clear history of gonorrhœa; though in several he had reason to suspect it. In four of the five cases of pyosalpinx the patients attributed the origin of their disease to a miscarriage. In Case V. (double pyosalpinx, ovarian abscess, and hæmatocele) the active suffering dated from a violent fall upon the ice several years before the operation. The fall was followed by bleeding from the vagina, which lasted several days; and from that time until the time of operation she suffered with great pain in the lower part of the abdomen, which rendered it difficult for her to walk erect, and with evening chills after any exertion during the day. It is probable that in this case the fall had caused the partial rupture of a previously distended tube.

In all the cases of pyosalpinx there was a history of repeated attacks of pelvic pain and inflammation, which often confined the patient to bed for several weeks. In two there was also ovarian abscess. In these cases the abscess cavity in the tube communicated directly with the abscess cavity in the ovary, and the origin of the ovarian abscess was obvious. In Case VII. (salpingitis and abscess of ovary), however, there was no pus in the tube. The tube was enlarged, adherent, and its fimbriated extremity was closed; and it did not communicate with the cavity of the ovarian abscess. The ovarian abscess contained about half an ounce of pus and had a distinct pyogenic membrane. He thinks that abscess of the ovary is of more frequent occurrence than works upon gynecology admit. And though it probably is in general due to ovaritis caused by inflammation of the tube, yet it is not always associated with pyosalpinx.

In two cases of double pyosalpinx (Cases V. and IX.)

a thin purulent fluid was found in the peritoneal cavity, and the intestines were found to be deeply congested when the abdomen was opened. The patients had probably been suffering for some time with general chronic peritonitis excited by the escape of pus from the distended tubes. The symptoms, however, before operation had not pointed to general peritonitis, the patients having only complained of pelvic pain and pain in the back. The chance that such a condition may occur in connection with pyosalpinx is a strong argument in favor of removing these abscesses by abdominal section, instead of evacuating them by the vagina, as is so often done.

The danger of assuming any case of peritonitis in a woman to be idiopathic, without a thorough vaginal examination is obvious. He has the report of a case which occurred recently, where the patient was treated for several weeks for idiopathic peritonitis, and an operation done a few hours before death revealed double pyosalpinx and a ruptured ovarian abscess.

In six of the cases reported, an abdominal drainage tube was used. The average time of convalescence in these cases was no longer than in the cases where a tube was not introduced; and the severity of the symptoms following the operation—the elevation of temperature, the rapidity of the pulse, and the pain—were much less marked in the drainage tube cases than in the others. The absence of pain in the drainage tube cases is probably due to the fact that most of them were cases of pyosalpinx where the tissues which were ligated and cut were so far degenerated that their sensibility was much diminished.

He thinks that the danger of abdominal hernia following the use of a drainage tube is exaggerated. In one of his cases there is now a small hernia, but it occurred above the position of the tube and was probably due to some error in introducing the sutures. In some thirty drainage tube cases which he has seen in the practice of Dr. Joseph Price, there has, as yet, been no hernia. It is probable that hernia is due more frequently to a long or a high incision, and careless suturing, than to a drainage tube.

The average length of time before the glass drainage tube was removed in his cases was about five days. The shortest time was two days, and the longest eight days. In but one case did the discharge from the tube become purulent. The use of a cotton rope to act as a capillary drain adds greatly to the value of the glass drainage tube. It prevents any fluid from remaining in the bottom of the tube, and it removes the deposits of fibrin from the perforations in the glass.

Case X. (dermoid cyst of the ovary) he reported in detail. The patient was forty-three years old. She had had three children and five miscarriages. She had first observed the tumor eighteen months before the operation. It rapidly increased in size, and when removed it was about six inches in diameter. It had never been accompanied by pain. The rapid growth of this cyst and the late period of life at which it was first observed are very unusual. The patient also had a much distended gall-bladder, and at the operation a calculus was felt obstructing the cystic duct. During the operation the dermoid cyst was ruptured, and the contents, consisting of very oily material and many fine hairs, escaped into the abdominal cavity and were removed with great difficulty. It was only after thorough sponging and irrigation that the peritoneum was cleansed. A drainage tube was introduced.

The patient suffered from severe shock after the operation. For the first three days the temperature remained normal or slightly subnormal. The pulse was about 115. There was considerable abdominal distention and pain; there was not much discharge from the drainage tube. On the third day large quantities of bloody serum began to flow from the drainage tube. At the same time the tympany and general abdominal pain became much increased. The temperature ranged between 97.5°–100.5°. The pulse was 130 to 140. The respirations were 40 or over. The tongue was coated, and there was constant hiccough and occasional vomiting. The bowels had not been moved, and there was no escape of flatus.

An ounce of sulphate of magnesia was administered daily, for several days, and many turpentine enemata were given. The enemata were retained for a few minutes, and when they were rejected a large quantity of flatus escaped. The bowels were not moved, and there was no escape of flatus at any other time. As the abdominal distention and pressure increased, large external hemorrhoids, which looked almost like a prolapse of the rectum, appeared.

On the fifth night a rectal tube was introduced, but it rendered but little service. Most relief was obtained from the turpentine enemata, and the patient frequently asked for them herself.

The hiccough and vomiting ceased on the sixth day. The discharge from the drainage tube continued to be very profuse, though of lighter color. The abdominal distention, the pain, and the hemorrhoids were unchanged.

On the seventh day after the operation the suture at the upper angle of the abdominal wound was removed, and the muzzle of a long syringe was introduced among the intestines in order to determine whether there was any collection of fluid in the abdomen which was not carried off by the drainage tube. No fluid was found, and the wound was reclosed.

On the eighth day the bowels began to act. There was profuse watery diarrhœa for twenty-four hours, accompanied by the escape of large quantities of flatus. At the same time all the symptoms of peritonitis began to abate; the abdominal distention rapidly decreased; the discharge from the glass drainage tube became so slight that it was removed. The hemorrhoids began to diminish in size, and by the tenth day they had disappeared. The diarrhœa ceased in two days, without treatment; and three weeks after the operation the patient was able to leave her bed.

He reported this case at length on account of the interesting phenomena attending the development and the subsidence of the peritonitis; and because it was treated throughout by sulphate of magnesia and rectal injections, and not by opium. It was not found necessary to use opium in any of the cases reported in this paper.

DR. J. M. BALDY said that in many cases of pyosalpinx if a wealthy woman refuses to take the risk of the knife, she can, by proper treatment, be made comparatively comfortable without great risk of her life. However, the majority of cases of pyosalpinx, even among the wealthy, demand surgical interference sooner

or later. If, on the other hand, the patient has to work for her living, and is suffering with recurring attacks of peritonitis, he thinks that there the operation is called for always. The risks of the operation are comparatively slight. It can be performed by any general surgeon if he has a cool head and good surgical resources.

The use of salines in the treatment of peritonitis is a point of extreme interest. From what he has seen of such cases he has no doubt that the treatment by opium is a great mistake. Where there are the signs of beginning peritonitis, the use of large concentrated doses of salines rapidly relieves them. While the use of opium favors the occurrence of adhesions, salines would naturally tend to do away with trouble of that kind. Opium shuts up all the avenues of escape for the product of inflammation, and then tends to increase the trouble rather than to alleviate it.

DR. J. PRICE was surprised at what Dr. Baldy had said with reference to pyosalpinx when he realizes how much trouble may come from a little pus. A case of pyosalpinx is always in danger. They suffer constant pain, they go down rapidly and die.

DR. J. C. DA COSTA could not agree with Dr. Price with reference to pyosalpinx. Others who have had a large experience, when asked with reference to their method of treating this affection, also differ from him. One gentleman, with a large experience in the removal of ovarian tumors, had told him that he had seen many cases of pyosalpinx, but that they had all recovered without operation. His experience is much the same.

DR. J. PRICE said that it is never safe to allow the pus to remain. It is not necessary always to remove both ovaries, as is often done in operating for ovarian tumors.

DR. M. PRICE challenged the statement that salpingitis does not cause much trouble. He has recently had a case which had been under medical treatment for five years. Two years ago an abscess burrowed down through the cellular tissue and discharged between the bowel and vagina. This case had been operated on five different times for fistula in ano, with entire removal of the recto-vaginal septum by operations, and until four weeks ago it had not been suspected that it was a case of pyosalpinx. These cases cannot be cured by simple medical treatment. There is no single case, that he has seen operated on, which stood one chance in fifty of living six months if the operation were not done.

DR. W. H. PARISH had no doubt that those who advocate this operation will agree that not all cases of disease of the appendages demand operation. August Martin has said that three-fourths of the cases of disease of the tubes and ovaries do not require operation. There are also cases of gonorrhœal affections of the tube which do not demand the operation. He has seen one case where the inflammation of the tubes followed the occurrence of gonorrhœal inflammation of the vagina, and in which the trouble subsided; the woman subsequently became pregnant.

With reference to the removal of ovaries and tubes that contain pus, he said that we all know that these cases may continue for years, but suffering from repeated exacerbations of inflammation. These patients are always in danger from the thinning of the tubal or ovarian wall, with the escape of pus, and the occurrence of general peritonitis. If we look over the records of any hospital or board of health, he thinks that we shall now find few deaths compared with the past, recorded as due to pelvic abscess and general peritonitis. He thinks that many cases of pelvic abscess and of general peritonitis have been in their origin cases of pyosalpinx. He is strongly in favor of the removal of the tubes and ovaries where there is pus. While a patient may enjoy a certain amount of comfort with pus in the tubes, yet she will be liable to frequent exacerbations, and may have her life placed in great danger at any moment.

He is sure that the operation for the removal of tubes and ovaries in pyosalpinx or ovarian abscess has come to stay, no matter what the future position of the operation for other conditions may be. He thinks that those who urge the treatment of these cases without operation are doing great injustice to a considerable number of patients, and also no little injustice to the surgery of to-day. His own experience with the operation warrants his endorsement of it.

DR. PENROSE said that such tubes as he had shown are useless and dangerous to the woman. They could not permit the passage of spermatozoa or ova. He thinks it is proper to open an abscess wherever it occurs, and not to trust to nature; and when possible to make a complete removal not only of the pus but of the abscess walls, as we do in pyosalpinx. In cases of pyosalpinx said to have been cured by medical treatment there is always an element of doubt with regard to the diagnosis. Such cases may sometimes occur. But there are few physicians skilful enough to make a positive diagnosis of pyosalpinx before the abdomen is opened. All of the cases on which he has operated had had several months or years treatment in the hospitals before the operation was performed.

CORRESPONDENCE.

LAPAROTOMY FOR STAB-WOUNDS OF THE ABDOMEN.

To the Editor of THE MEDICAL NEWS,

SIR: I trust you will pardon my presumption in criticising a statement in the editorial of December 3d, on "Laparotomy for Gunshot Wounds of the Abdomen." You say: "In stab-wounds the lesion must be limited to the region of the wound, hence it is not necessary to perform median section, and make an extensive examination of the bowels; but in gunshot wounds, unless the bullet is of very small size median section had best be performed."

In view of my own experience with stab-wounds of the abdomen, in which abdominal section was performed, which is limited, I admit, to three cases, I must take exception to this statement. If the surgeon merely enlarge a wound in the lateral part of the front of the abdomen, and endeavor to examine the condition of the intestines, he will find that he is obliged to work through a very thick portion of the abdominal wall, and that he is very much restricted in making a thorough exploration of the contents of the abdomen.

Stab-wounds, if made by long knives or stilettoes, are liable to injure the intestine in as many portions as a bullet, and I do not think that your statement is correct, which says that the intestinal lesions in stab-wounds must be limited to the region of the wound. In one of

the cases in which I was satisfied with enlarging the original wound, I spent a great deal of time, on account of the difficulty of working through the thick abdominal wall, in sewing up two intestinal wounds, after which I closed my incision. The patient died a few days later, and the autopsy showed active inflammation of the peritoneum, and a third wound of the intestine which I had overlooked. The wounds which had been treated by suture were in good condition and in process of cicatrization.

In another case in which I at once made median section, I was able to explore the abdominal cavity with more satisfaction, sutured the wounds which were found, and was gratified by the complete recovery of my patient. These two cases, which occurred in the Pennsylvania Hospital, convinced me that in most cases it is better at once to make an incision in the median line rather than to enlarge the original wound, especially if that wound be so far away from the median line as to involve the oblique muscles of the abdomen.

This opinion is strengthened by a case which I had a few days ago at St. Mary's Hospital, and in which, after enlarging the wound, I was obliged to content myself with suturing the single wound discovered in the intestine, and rapidly replace the protruded bowels, because of the approaching dissolution of the patient, who was almost moribund when admitted.

At a recent discussion in the American Surgical Association, in commenting upon this subject, I took occasion to say, in referring to the first case here mentioned, that I believed death occurred because of the method in which I did the operation. My words at the time were as follows: "I very unwisely, as I now think, enlarged the wound instead of making a median section, hence, I had to work through a thick, muscular part of the abdominal wall and found it very difficult to examine the gut properly. As the result, the time occupied was long, and, on account of the patient showing symptoms of collapse, I closed the wound, thinking I had sutured all the intestinal punctures."

The fact that stab-wounds of the abdomen, treated by laparotomy, have not been so frequently reported as gunshot wounds so treated, has induced me to take the liberty of making this criticism.

Yours very truly,

JOHN B. ROBERTS.

1627 WALNUT STREET, December 6, 1887.

NEWS ITEMS.

THE MEDICAL CORPS OF THE NAVY.—The Washington correspondent of the New York *Times* states that it is probable that a bill will be prepared by the Surgeon-General of the Navy having for its object the improvement of the condition of the assistant and passed assistant surgeons of the navy. This bill he will present to Congress. Secretary Whitney will, of course, be consulted before any steps are taken in the matter. If the Secretary approves the plan, every effort will be made to secure the passage of the bill. It will provide for better pay for these officers, and in other ways increase the inducement to enter the service. It is at present an impossibility to fill existing vacancies in the corps. There are thirteen places to be filled. The examination for admission is extremely difficult, and while many apply for appointment, few answer the requirements. The Surgeon-General desires to keep up the present high standing, but knows that if the examinations remain as rigid as now, and the inducements to enter the service are no greater, there will be even a greater number of vacancies than now. At this time thirteen assistant surgeons are needed. Notice has been received from the Medical Board in Philadelphia that Dr. George McCaw Pickrell, of Richmond, Va., passed an examination for appointment as assistant surgeon. If he accepts a commission, there will be twelve vacancies yet to be filled. These will be readily disposed of if the salaries of the assistant and passed assistant surgeons are increased sufficiently to compensate for delayed promotion.

THE NEW YORK CANCER HOSPITAL.—The project of establishing a special hospital for the treatment of cancer, which was inaugurated three years ago by the incorporation of the New York Cancer Hospital, has now been carried out in part by the completion and equipment of one pavilion, intended for female patients only, which opened its doors on December 7th.

The necessity for such a hospital has been acknowledged by the highest medical authorities, and its advantages will be appreciated by all. It will supplement the work of general hospitals in caring for patients whom they do not receive; and, being devoted exclusively to cancer, it will offer the best possible opportunity for the treatment of that disease. Its object will be, furthermore, to test and compare the results of different methods of treatment, to collect statistics for study by the accurate observation of a large number of cases, and to try new remedies.

To carry out these objects, the present building has been constructed after the most approved plans, and with a view to the needs of this class of patients. The situation is healthful, opposite Central Park, and the grounds are ample, embracing a plot fronting on Eighth Avenue, and extending two hundred feet on 105th and 106th Streets. There are four circular wards, which is the form best adapted for ventilation and freedom from dust. These will accommodate forty-four patients, while sixteen private rooms will give place for twenty patients, who desire such accommodation, or for those who require isolation. A well-appointed operating-room, an autopsy building outside the walls, and a separate laundry building and boiler-house are other features of the hospital. The present pavilion has all the accommodations for the executive work of the entire building when completed, and the laundry and boiler-house have been constructed with the object of supplying this addition.

All patients suffering from cancer, whose condition admits of cure or relief, will be admitted by the superintendent with the approval of one of the medical officers of the hospital.

Patients living out of town should submit to the superintendent an application in writing, accompanied by a statement of their case by some responsible physician, before presenting themselves at the hospital.

The charge for board in the wards and private rooms will be at rates fixed by the Executive Committee. These rates will include all expenses except those of a special nurse. All charges may be remitted in whole or part by the Executive Committee.

The staff of the hospital is as follows:

Attending Physicians and Surgeons.—Drs. James B. Hunter, A. Brayton Ball, Clement Cleveland, Francis P. Kinnicutt, and William T. Bull.

Assistant Physicians and Surgeons.—Drs. B. Farquhar Curtis, J. S. Hawley, H. C. Coe, and W. G. Thompson.

THE MEDICAL DEPARTMENT OF DARTMOUTH COLLEGE conferred the degree of Doctor of Medicine upon 26 graduates at its recent commencement on November 22d.

A FRENCH EDITION OF MUNDÉ'S WORK ON THE USE OF ELECTRICITY has been received. It is translated by Ménière, editor of the *Gazette de Gynecologie*.

FIRE IN THE LABORATORY of L'École Pratique de Médecine at Paris, recently caused damages estimated at $20,000. Its source was a burning gas jet. Inflammable chemicals aided the spread of the flames until the Physiological Laboratory was set on fire, where much valuable apparatus was destroyed.

CONTAGIOUS PILLOWS.—The *Lancet* is exercised over the dangers of contagion from pillows, and expresses its fears as follows:

Trade, we know, has always had its tricks, and with most of those who practise them it matters little whether they are or are not as harmless as they are profitable. If goods look well from the outside, and if they sell well, questions relating to their internal quality and their real value are too often settled by reference to that convenient rule of doubtful equity—*caveat emptor*. The principle of this adage was probably never quite a fair one. In all cases requiring technical knowledge, and their name is legion, it must allow the dealer a distinct advantage over the purchaser. We must remember also that the former may himself have been deceived. It is not he who is primarily responsible for the hidden faults of quality by which the most cautious buyer may be defrauded. It is the maker, who, with his eyes open, provides for a cheap market not only cheap and inferior, but essentially bad material. Let us quote an example. A correspondent exposes the dangerous but common practice of stuffing pillows with rags and scraps of clothing of every variety and degree of dirtiness. He suggests with much force that some of those outbreaks of fever which arise from time to time in schools and families from no apparent source, domestic or external, may be traceable to this dishonest and filthy custom. The maxim wherein cheap and nasty are interchangeable terms, is fitly illustrated by our correspondent's description, and the remedy for the evil he denounces is largely in the hands of the public. In part, also, it is within the power of the sanitary authority. The agents of that body must, and constantly do, destroy what they can of unwholesome bedroom litter in houses where fever has been prevalent. If they will exert their discreetly unsparing zeal for cleanliness wherever, among rich or poor, the tradesman's heedless trick is planting the seeds of disease, we may expect to see some change or the better, at least in one false custom of our time.

ST. JACOB'S OIL IN ENGLAND.—The following endeavor to protect the British public against the use of a secret nostrum, as narrated by the *Lancet* of November 19, 1887, is certainly worthy of imitation:

Mr. Justice Kay, in the Chancery Division, in the case of C. A. Volger and Co. *v.* Middleton, was asked the restrain the defendants from advertising and selling an oil as St. Joseph's Oil, as being an infringement of the plaintiff's trade mark, and calculated to deceive the public. Mr. Justice Kay said that both the plaintiffs and defendants were vendors of quack medicines which were largely advertised to heal all manner of external injuries. He declined to rule that the use of any saint's name in the calendar was an infringement of the plaintiff's trade mark. But lest either party should use his judgment as an advertisement, he hoped they would add that no one should employ either preparation except under medical advice. The judge's counsel is excellent. It is too much to expect that the parties to the suit will publish it. But we gladly give it publicity and praise.

MARKET BRANDS OF CONDENSED MILK.—From the *American Analyst* of November 15, 1887, we learn that the Dairy Commissioners of New Jersey have caused analyses of the samples of condensed miik sold in that State to be made, with the following results:

Milk condensed without cane sugar is better for infants and invalids, but not keeping well, even in sealed cans, is of doubtful value. Milk preserved with cane sugar, if carefully prepared, keeps well in cans and does not spoil very rapidly, even after the cans are opened, provided the latter are kept dry and no water is mixed with it. The very large amount of cane sugar necessary to preserve milk renders it, however, an unwholesome food for infants, and such milk can by no means be regarded as a good substitute for fresh milk for this use. Condensed milk preserved with sugar is not fit food for infants. The directions on the cans in general state that, by adding a certain quantity of water, the condensed milk can be made to resemble cream; by adding more, it becomes the equivalent of milk. This can never be true; cream contains from three to four times as much fat as the average condensed milk, and no dilution with water will make such milk resemble cream, except outwardly.

Many manufacturers make false statements as to the quantity of fresh milk condensed to produce the contents of the preserved milk cans. The condensation is rarely more than threefold and usually somewhat less. A well-made condensed milk, with cane sugar, should show no undissolved sugar and be of a nearly white color, having but a faint yellowish tinge. It should have no cheesy taste or smell and should dissolve readily in about four parts of cold water. Especially should it dissolve without showing separated flocculent particles of casein or curds. Out of sixteen samples, analyzed, two of which were condensed without sugar, the analyst found that only nine were in good condition and well put up. Of the other seven one had fermented, one contained a considerable amount of undissolved cane sugar, a third was stiff, had a cheesy smell, curdled, was of a brownish color and altogether of an inferior quality. Two others had attacked the metal of the can. One was a dark brownish glutinous mass, with a smoky, cheesy taste and odor. Glucose had been used as a substitute for cane sugar. Another sample

was stiff, brownish in color and cheesy. These facts show the care that it is necessary to exercise in purchasing and using condensed milk.

SHALL THE LANGUAGE OF PRESCRIPTIONS BE SIMPLIFIED?—The *Lancet* of November 19, 1887, writes as follows on this point: There is among medical practitioners an increasing disposition to substitute for the series of classical terms hitherto used in prescribing their simpler and more accurate equivalents in the vernacular. The reform is one which has our approval. In making this admission, however, it is necessary to define with some preciseness the extent of its application. For the purpose of the present argument, a prescription may be conveniently regarded as consisting of a professional and a popular part, the former being concerned with a statement of drugs and their quantities, the latter with directions for their use. The first great requisite that should belong to such directions is, we take it, clearness. Their meaning must be plain beyond all chance of misunderstanding on the part of inexperienced dispensers, a result hardly to be expected if words, phrases, and abbreviations are clothed in a garb of studiously quaint antiquity. The advantage conferred by a common scientific language is in this connection, as a rule, wholly inoperative, since a translation of injunctions to the patient is not usually required, and, should it be needed in consequence of a change in the medical attendance, is not difficult to obtain. Doctor, chemist, nurse, and patient are here on common ground that has less to do with medicine than with attendance on the sick, and their simplest and surest means of communication is the native tongue. It is otherwise when we come to component parts and quantities of a prescribed mixture. These are the special concern of practitioners, and a clear and easy understanding among all such, of whatever country, with regard to the means of treatment, is of the first importance. Alike for this purpose and to allow of advisable brevity, the use of one common medium of expression is decidedly preferable to any other system. We are therefore of opinion that the best and most natural result of the reform in prescribing which is now in progress will be to leave the body of the prescription in its present convenient though antique form, and to insure the most accurate observance of instructions to the patient by expressing these in the language of every-day life.

DEODORIZATION OF HANDS IMPREGNATED WITH IODOFORM.—DOUX, in the *Bulletin of the Pharmaceutical Society of Bordeaux*, advises first vigorous soaping of the hands; then washing them in water to which is added tincture of iris (blue or white flag), when the odor disappears completely.

THE DUTY OF THE STATE AND SOCIETY IN CHECKING INEBRIETY.—The International Congress of Hygiene at Vienna, in a full and interesting discussion on inebriety, urged upon the State and society the duty of working to check inebriety by the spread of information regarding the evils of alcoholism; the fair rendering of mild, non-injurious beverages; the promotion of the hygiene of the poor; the proper segregation and medical care of the inebriate. It is the especial duty of the State to see that the sale of highly alcoholic liquors is lessened as much as possible by taxation; to secure the sale of pure liquors only; to maintain proper police supervision of drinking shops; to commit drunkards to proper institutions for treatment as promptly as possible. The continued treatment, medical and hygienic, of the drunkard is of paramount importance.—*Wiener medizinische Presse*, October 30, 1887.

THE EXAMINATION OF WATER.—DR. PARKES, of London, after reviewing the various methods of examining water, concludes that chemical analysis, aided by microscopic examination, is sufficient in the great majority of cases to determine the amount of organic pollution of a water, and whether it is of recent date. In many cases the source of the pollution, whether from sewage or vegetable matters chiefly, can also be determined; but there is no possibility of ascertaining whether the water thus polluted is actually potent for evil or whether it may not be entirely harmless. Chemical analysis is powerless to deal with those cases of infinitesimal pollution of a pure water with infective material from the human body. Cultivation tests are equally powerless to cope with such cases. The only possible way of ascertaining the probable effects on the human system of drinking such water, is for the operator to perform the experiment on his own person—a course not likely to be pursued. The cultivation tests, as now practised, add very little to the results obtainable by chemical analysis. Micro-biology must undergo further development before germ-cultivation methods can be expected to throw much light on water-pollutions. Lastly, the sanitary survey of the source of the water, or its mode of storage, should always be carried out whenever any doubt exists as to the freedom of the water from all possible sources of contamination.—*Practitioner*, November, 1887.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 29 TO DECEMBER 5, 1887.

BIRMINGHAM, H. P., *Captain and Assistant Surgeon.*—The leave of absence granted by orders No. 52, Fort Myer, Virginia, November 24th, is extended twenty-three days.—*S. O. 255, Division of the Atlantic*, November 28, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE, FOR THE THREE WEEKS ENDING DECEMBER 5, 1887.

WYMAN, WALTER, *Surgeon.*—Granted leave of absence for hirty days, November 29, 1887.

WILLIAMS, L. L., *Assistant Surgeon.*—Granted leave of absence for twenty-one days, November 18, 1887.

KINYOUN, J. J., *Assistant Surgeon.*—Leave of absence extended seven days, November 29, 1887.

WOODWARD, R. M., *Assistant Surgeon.*—Granted leave of absence for seventeen days, December 5, 1887.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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